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ISSUE 30 • OCTOBER 1993 • £1.95
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SPEED UP YOUR AMOS CODE

AMOS Pro Compiler reviewed: page 58

CORRECT YOUR GRAMMAR

Proper Grammar reviewed: page 80

GET THE LAW ON YOUR SIDE

Amiga Advocate: page 72

FILE YOUR DATA

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AMIGA
ANSWERS

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AMIGA CD32



The exterior may be sleek but lurking inside the Amiga CD32 is a technological wonder. At its heart is the mightily powerful 68EC020 processor from Motorola. This contains the 32-bit technology which has made the Amiga 1200 a runaway success throughout Europe.

Alongside it is Commodore's unique custom AGA (Advanced Graphics Architecture) chipset - comprising three chips nicknamed Paula, Lisa and Alice.

Together they make Amiga CD32 and awesome powerhouse of high speed graphics and stunning sound capabilities.

In fact, the machine can display 256,000 colours on screen (compared to Sega's Mega CD which can only display 64) and has a total colour palette of 16.8 million colours. Amiga CD32 also comes with a chunky 2 Meg of RAM (that's 15 times more than Mega CD) and a double speed drive.

SPECIFICATIONS:

- * 14 MHZ 68EC020 processor
- * 2 Megs 32-bit chip RAM
- * 2 Joystick ports/controller ports
- * S-video jack
- * Composite video jack
- * RF output Jack
- * Stereo audio jacks
- * Keyboard connector/ auxiliary connector
- * Full expansion bus
- * Headphone jack
- * Headphone volume control
- * External brick power supply
- * Internal MPEG FMV expansion capability
- * Multiple session disc capability

INDI DIRECT MAIL

Proudly Presents THE JAKKI BRAMBLES COLUMN

Hi,

Two guesses as to what I'm going to review this month. You'll probably get it in one.... **The new Amiga CD32**

July 16th at the Science Museum in London, Commodore Launched 'CD32 to a very excited audience; and what a launch it was! We all expected to see a very special Amiga but no one (except Commodore) could imagine just how special!

In fact, only in June of this year did Sega themselves quote "we could bring a 32-bit console out tomorrow...but the problem is the price and I don't think that problem will be solved this year or next year" Well Commodore have definitely knocked that theory on the head with a retail price of **£299.99**.

I won't go on about all the other breakthroughs this console has made as I know the magazines are full of reviews giving all that techie stuff etc. but I really must say something about the staggering amount of software that's due for release. Somewhere between 50 and 100 titles will be available by Christmas and more importantly all the great software houses are now developing products, including Psygnosis, Ocean, Gremlin and many many more.

As if all this wasn't enough there's still more to come from this incredible box of tricks...**Full Motion Video**. By the inclusion of a neat little gadget called an **Mpeg Module** you'll soon be able to watch films on CD and that really does mean some really special products are just around the corner. I can't wait to see and hear all my favourite bands on CD and the Amiga CD is just waiting to play them.

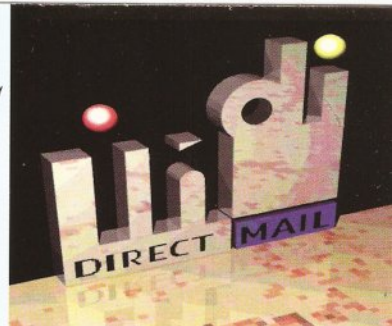
Anyway I'm sure you're just as convinced as I am that this product from Commodore really is just a bit special and certainly changes the future for things to come the likes we have never seen before. Why don't you drop me a line and tell me what you think, in fact how about some suggestions as to what you'd like to do with the new Amiga and I'll get Indi to give one away for the best letter.

See you next month.

Cheers

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DMA ENSURES HIGHEST PRACTICE

As with most industries, the UK's personal computer industry has its share of cowboys operating in the mail order sector and at the receiving end a line up of despairing consumers who have suffered at their hands.

A personal computer is a sophisticated and expensive item and provided the purchaser is dealing with a reputable and accredited supplier, buying a computer by mail order can be a perfectly safe and cost effective exercise. The Direct Marketing Association (DMA) was set up in April 92 to set and maintain high standards for the sake of the industry and society at large, and to ensure that we can continue to regulate our own activities on the basis of

proper professional responsibility. Membership of the DMA is not conferred lightly - it is a privilege which entails responsibilities, to the consumer as well as to the industry. The foundation for this must be good practice. DMA members are required to abide by the highest standards as laid down in the DMA's code, enforced on members by The Authority of the DMA a separate body with an independent Chairman, and which is an assurance of vigorous self-regulation and professional responsibility.

DMA members also agree, as a condition of membership, to abide by The British Code of Advertising Practice and The British Code of Sales Promotion Practice: to apply the Mailing Preference Service file when appropriate; and to subscribe to the Advertising Standards Board of Finance (ASBOF) and to the Mailing Standards Levy as applicable.

The DMA symbol can only be used by members. Printed on stationary, advertising and other promotional material it demonstrates that these companies conform to the Association's high standards and are subject to the DMA's Code of Practice, thus enhancing the companies' credibility with customers, suppliers and of greatest importance, the consumer.

Since the symbol was introduced last June, it has become synonymous with quality, professionalism and responsibility. While it cannot be shown in any way which will become a sign of best industry practice and of strict adherence to DMA codes of conduct. The symbol represents authority for members and reassurance for consumers. It has been a high valued mark of confidence signifying to the consumer the truly professional edge of the industry.

Alison Slan
(Director of Public Relations, DMA)



News

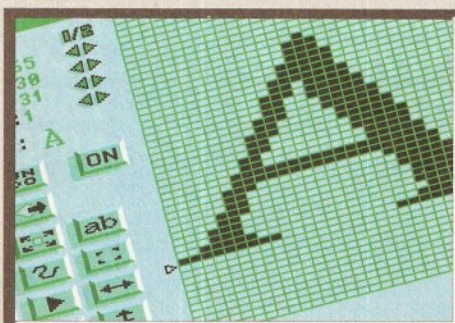
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Amigas used to build dinosaurs, Future Publishing to host massive entertainment show, PLUS news of all the latest Amiga product releases

US News

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The Amiga Cowboy paints a sorry picture of the Amiga in the USA, in this, his last column



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Whether they be bitmapped or scalable, you'll find out how best to use your fonts in the first informative installment of our fonts special

Communications

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A warning about a new virus doing the rounds, advice for Supra modem owners, and much more

AMIGA ANSWERS

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It's the place where our expert panel, drawn from all areas of Amiga usage, solve your technical problems. No query is too tough, so send 'em in

Code Clinic

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Want to know how to debug your own programs? This is where we put real-life code to rights

Correction corner

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Time to say sorry: a few of the listings in issues 28 and 29 were printed incorrectly. Turn here for the corrections if you're still seething with frustration

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Find out whether or not you can trust Amivision's simple but cheap database with your data

AMOS Pro Compiler

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Europress's compiler will turn your AMOS, Easy AMOS and AMOS Pro programs into leaner and meaner counterparts. We look hard for a catch

Music

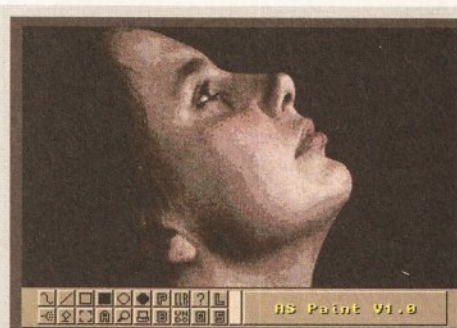
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Tim Tucker asks if Technosound Turbo 2 is a sound buy, and continues his *OctaMED* tutorial

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Learn how to improve your programs with Intuition windows and mouse-driven input in the latest installment of our address book tutorial



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Write your own Amiga paint package in AMOS with our ongoing tutorial. This month – adding a scrolling tool bar and associated icons

Amiga Advocate

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Solicitor Kevin Walsh offers legal advice on avoiding hassle from mail order companies PLUS the art of successful complaining is revealed

User Groups

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There are millions of Amiga owners out there. This is your chance to meet them and swap hints

Proper Grammar

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Softwood's *Proper Grammar* aims to turn your dodgy prose into something Flaubert would have been proud of. But just how proper is it?

ARexx

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ARexx is a programming language supplied free with all new Amigas. Here we tell you how to use it

AmigaDOS

86

Turn here if you've just got an Amiga. We'll tell you everything you need to know in our beginner's guide to Shell and the Amiga's operating system

Window Shopper

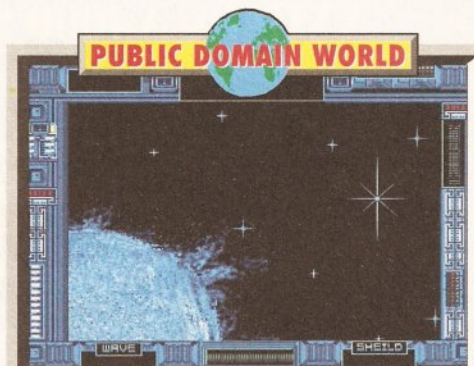
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Reviewed: *The Commercial Games Programmer's Guide*, *Word Power*, *Western Movies* animated clip art, and graphics videos *Global Chaos* and *X-MIX-1*

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Have your say about the Amiga and related issues. Each month we give away £25 to the best letter



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Ian Wrigley checks out another bumper haul of free and shareware programs, including the latest Fred Fish school and some disk magazines

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If you're after a hardware or software bargain you'd be a fool to ignore the ones on offer here

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Turn here if you're missing the full set of issues

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Your guide to the best in public domain, complete with supplier information and review references

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Avoid hassle by reading this before buying anything

Next Month

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You've read everything in this issue *already*? Oh, alright, we'd better tell you what's coming next

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Those touchingly generous people from Power Computing have offered us five high density drives to give away. Just answer the three questions...

VIDEO ON THE CHEAP
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 is pretty good for....
HOME VIDEO
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Your complete guide to producing computer videos on a shoe-string, with advice on buying software and hardware, connecting everything together, and using it

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COMMENT



The editor, Cliff Ramshaw, offers his penny's worth...

It's always been a dream of mine to make my own film, and I suspect that many of you share that ambition.

Let's face it, one of the things that led many of us to choose an Amiga over rival machines was its exceptional graphics. The graphics potential of the machine continues to grow as the hardware is improved – and the imagination and skill brought to bear on this hardware, producing some stunning effects, never ceases to amaze. Video has to be one of the most exciting fields of Amiga computing.

So this month we're showing you exactly how to do it. Not only are we giving you extensive hints and tips about setting up and using the equipment, but we're also recommending the most cost-effective kit you can get to do the job. In fact, you'd be surprised at how much is possible without spending anything. Turn to page 12, and tap one of the richest veins your Amiga has to offer.

The next big thing

Last year it was called the *Future Entertainment Show*. This year it's going to be bigger and better, and it's called the *Second Future Entertainment Show*. From Thursday 11 to Sunday 14 November, London's Olympia is going to be the Mecca of computer fans nationwide.

It's going to be quite a media event, too. For one thing, the TV programme *GamesMaster*, watched by around 3 million viewers every week, is going to be broadcasting live on the show's opening night at 6.30. This is quite a coup: it's the only non-sporting event Channel 4 has ever covered in an outside broadcast, and it's the first time a live broadcast has ever occurred from a computer show. But that's not all. BBC Radio One is to be the show's official radio station, again broadcasting live.

And even that's not all. You could also be one of the first people in the country to see Disney's latest blockbuster *Aladdin*. It may sound like a kiddies' film, but we have it on good authority that it's absolutely smashing for adults too, especially since it has that zany Robin Williams bloke playing the djinni. Anyone booking a show ticket for Friday will also be given a free ticket to an *Aladdin* preview taking place on Sunday 21 November. You'll be able to select your venue from a variety of cinemas up and down the country.

And, yes, you've guessed it, there's more. For at the show you'll get the chance to see all the latest developments on the Amiga front. Plenty of show stalwarts will be there, including good old Commodore, who'll be showing off

their Amiga CD³² and, let's hope, lots of lovely software to go with it. Among the other exhibitors so far booked up (though remember, it's early days yet in a booking-in-exhibitors sort of time frame) are Datal Electronics, makers of the

The second Future Entertainment Show

Action Replay cartridges, Digital International, famous for their Wordworth word processor, and Power Computing with their high-density disk drives and other assorted hardware.

If you're looking for some good

suggestions for the magazine, buy us beer, that sort of thing. Teams from many of Future Publishing's other magazines will also be there, including *Amiga Format*, *Amiga Power*, *GamesMaster*, and plenty of those console types.

And, just supposing you are into computer games, then you're in for a rare treat. There'll be games galore, on every conceivable format, including the new Amiga CD³². You'll be able to witness the finals of the National Computer Games Championships, and even compete if you register with your local Virgin Games Centre or Megastore before October 25 (October 18 if you live in Scotland). If you are a whiz with all things sprite-like and colourful, you ought to consider entering: there's a first prize of £10,000 up for grabs, with £4,000 going to the runner-up.

So here are all the details: the show runs from Thursday 11 to Sunday 14 November at the Grand Hall, Olympia, London. Thursday opening will be 10 in the morning till 8 in the evening (to accommodate the *GamesMaster* broadcast); Friday's will be 10 till 5, while Saturday and Sunday's will be 9 till 5. Tickets are £6.95, or £24.95 for a family group, which consists of four people, at least one of which must be an adult. Now, last year's show got a tad on the crowded size.

So, to prevent the same thing happening again this year, we've rather cleverly implemented an advance ticket sales system. *You must book your tickets in advance if you want to attend.*

The "hotline" number, as it is playfully called, is ☎ 051 356 5085. Go on, make that call, and we'll see you there in November.



There's really been nothing like the *Second Future Entertainment Show* since the first one, and even then, that wasn't quite as huge and lovely.

bargains, you won't go far wrong. There'll be a whole host of exhibitors selling hardware and software at unbeatable prices. This'll be your chance to treat yourself to that upgrade you've been lusting after.

You'll also have the opportunity to meet the *Amiga Shopper* team, put questions to us, give your

Serious CD software

The first non-games software for Commodore's brand new Amiga CD³² is almost ready for release.

It is *INSIGHT: Technology*, a disc containing photo images and video sequences that illustrate 260 items of modern technology, ranging from the ballpoint pen to the Space Shuttle. The title is being produced by Optonica, who also sell, for only £4.99, *Pandora's CD*, a multimedia sampler containing images and sounds from a variety of sources, including *INSIGHT Technology* itself.

Work on the next *INSIGHT* title

is well underway. *INSIGHT: Dinosaurs* is being produced in cooperation with the British Natural History Museum, and is likely to appeal to *Jurassic Park* fans. It will feature two- and three-dimensional computer graphics, video, photos, narration, music and sound effects. The title is expected to be available by October for a cost of £39.95 from Optonica ☎ 0455 558282.

A price for *INSIGHT: Technology* has yet to be announced; but the title will be released through Commodore ☎ 0628 770088.



Learn all about dinosaurs with Optonica's forthcoming CD³² title. This is no game!

YOUR CHANCE TO CONSUME

Fans of consumer electronics, which must mean most of us these days, will be flocking to London's Olympia from 16 to 20 September. It's the site of *Live '93*, a show dedicated to the exhibiting of consumer electronics goods.

There you'll find not only computers, but also hi-fi's and televisions, videos, cameras and camcorders... the list goes on. Tickets are £7 each; a family ticket, which will admit two adults and three children, costs £16. To book, phone ☎ 071 373 8141.



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PAGE)



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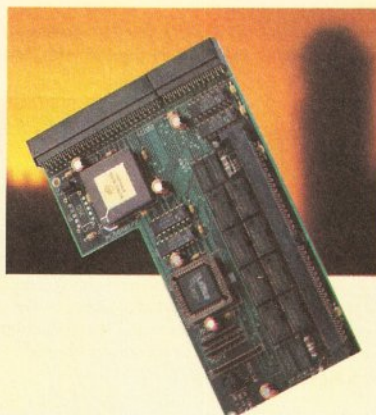


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MBX1200Z 6882 25 MHZ 8MB **INDI PRICE £579.99**
MBX1200Z 6882 50 MHZ 0 MB **INDI PRICE £200.14**
MBX1200Z 6882 50 MHZ 4MB **INDI PRICE £308.14**
MBX1200Z 6882 50 MHZ 8MB **INDI PRICE £669.99**
68882 FPU UPGRADE **INDI PRICE £669.99**

AUDIO VISUAL

MEGAMIX. Low cost, hi spec digital effects cartridge plugs into the printer port of the Amiga. Allows stereo sampling from almost any musical source.

INDI PRICE £29.99

TAKE 2. Animation package is a must for computer artists and enthusiasts of all ages. As used in Rolf Harris Cartoon Club.

INDI PRICE £37.99

VIDI AMIGA 12. The ultimate low cost colour digitiser for the Amiga. "The best value full colour digitiser on the market." AMIGA FORMAT.

INDI PRICE £75.99

ROMBO VIDI AMIGA 24(RT). For the more serious user, this 24 bit version will again capture from any video source with true 16.7 million colours! A staggering 16.7 million colours can be utilised in incredible results. Full AGA chipset support.

INDI PRICE £239.99

AMIGA PERIPHERALS

2MB SMARTCARD. The original and still the only fully PCMCIA compatible memory card for A600/ A1200. Comes with lifetime guarantee. Beware of cheap imitations.

4MB SMARTCARD. Same as above but with maximum 4MB.
INDI PRICE £199.99

PRO 601
Memory upgrade for the A600, 1Mb with
INDI PRICE £49.99
PRO 601 INC As above only 512K,
lock **INDI PRICE £29.99**



ROCTEC ROCGEN

Entry level Genlock for all Amigas. Record stunning Amiga Graphics into standard video or overlay text and graphics onto a video signal.

INDI PRICE £69.99

ROCTEC ROCGEN PLUS.

As above but with extra features such as tinting and signal inversion. Allows for real time editing of graphics. Compatible with all Amigas.

INDI PRICE £133.99

ROCTEC ROCKEY.

The ultimate accessory for Amiga / Video fans. Separate RGB controls to chroma key on any colour.

INDI PRICE £249.99

ROMBO VIDI AMIGA 12 (RT). Based on the best selling Vidi Amiga 12. This all new version offers real time colour capture from any video source. Full AGA chipset support as standard for all A1200 / 4000 users.

INDI PRICE £139.99



DISK DRIVES ZAPPO EXTERNAL FLOPPY

You've seen all the reviews on this popular and affordable second Amiga drive. Compatible with all Amigas.

INDI PRICE £59.99

Quality: 9 out of 10. Exceptional value for money. **AMIGA COMPUTING JAN 93**



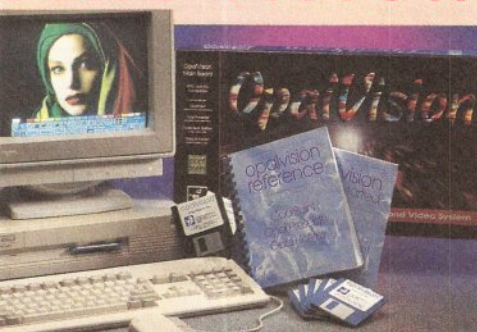
1084ST MONITOR.

Commodore's original and best selling colour stereo monitor.

Now includes swivel and tilt stand for total ease of use.

INDI PRICE £189.99
(£179.99 if purchased with A600 / A1200 / A1500)

OPAL VISION



NEW FOR SEPTEMBER RELEASE!

The already acclaimed Opalvision Board takes three further leaps into the future with the official launch of the Opalvision modules. With truly awesome capabilities the Amiga can now become the most professional 24 - bit video graphics power station on the planet!

The NEW OPAL VISION system(Rev.2)

The amazing Opalvision 24 - bit graphics board and software suite has been updated and is now even better value for money.

The software suite now includes:

Opal Paint V2.0 - Now includes full magic wand implementation and Alpha Channel that allows photo compositing with selectable levels on a pixel by pixel basis. The new Chrominance effect allows absolute, real time control of image contrast, brilliance and re - mapping of colours.

Opal AnimMATE V2.0 - offering real time play back of animations created by ray tracers, landscape generators, morphers and all other 24 - Bit software.

Opal Hotkey V2.0 - Display OpalVision graphics anytime with key combinations.

Opal Presents - Comprehensive, icon - driven presentation package. **Special Limited offer**

IMAGINE V2.0 for only **£59.99** when purchased with OPALVISION Imagine 3D is the most popular 3D rendering software, that now supports OpalVision. This is a full version that would cost £300 if purchased separately.

"Quite simply, it's a spectacular product" - Amiga Computing

"Undoubtedly the finest, most professional paint program to arrive on the Amiga" - Amiga Format

"Professional quality at this Price can't be turned away" - Amiga User International

"The verdict was unanimous - brilliant" - Amiga Shopper

INDI PRICE £549.99

OPAL VISION VIDEO PROCESSOR

Plug this card into the Opalvision mainboard and add a wealth of additional features and functionality. Included is the long awaited "Roaster Chip" for an unlimited number of digital video effects.

Features include:-

- * 24 - bit real - time frame grabbing from composite or S - Video
- * Professional quality genlocking
- * High quality digital video effects
- * "Roaster Chip" for effects of unequalled quality
- * 24 - bit Picture - in Picture and Video Sandwich Keying

INDI PRICE £899.99

THE OPAL VISION VIDEO SUITE

A power packed video and audio mixing, switching and transcoding device. This 19 inch rack mount unit is so advanced that it actually has its own internal computer. With a total of 9 video and 10 audio inputs available the flexibility of this professional tool is incredible

Features include:-

- * 4 X composite inputs
- * 4 x 5 video inputs (SVHS, Hi - 8 of Y/C)
- * 2 x RGB inputs
- * 1 x Master sync input
- * 1 x Composite main output
- * 1 x S - Video main output 1 x RGB mains output
- * 1 x composite preview
- * 10 x mono audio inputs (or 5 stereo pairs)
- * Stereo output with 5 band equalizer

INDI PRICE £899.99

OPAL VISION SCAN - RATE CONVERTER

Add this card to the Opalvision Main board and achieve 31 KHz non interlaced output of Amiga graphics. On board memory also serves as a separate frame - store for dual frame buffer applications

Features include:-

- Converts interlaced PAL and NTSC to 31KHz non interlaced flicker - free display
- No external power supply needed
- Works with any multi - sync / multi scan monitor
- Includes full, infinite window Time base correction
- Operates in RGB for superior quality

INDI PRICE £899.99

**TERMS AVAILABLE OVER 6, 12, 24, & 36 MONTHS SUBJECT TO STATUS.
WHY NOT RING FOR A QUOTE. SAMEDAY RESPONSE. (SEE EXAMPLE)**

Panasonic Quiet Colour Printing



We researched the colour printer market at great depth to find a colour printer good enough to cope with Amiga's powerful output, yet at an affordable price. We found the perfect printer in the KX - P2180 and KX - P2123 quiet printers.

We then considered that if you were going to buy a Panasonic printer you would probably need a quality word processing package to use with it. We found that too, with 'Wordworth' yet at a retail price of £129.99 we thought that might be a little too expensive on top of your printer purchase! So together with Panasonic we decided to give a copy of 'Wordworth' free with every Panasonic printer. How's that for added value?

Panasonic KX - P2180



***WORDWORTH COMPLETELY FREE! WITH PANASONIC QUIET PRINTERS.** The writers choice. The ultimate word processor for AMIGA computers. Wordworth is undoubtedly the ultimate word / document processor for the full range of AMIGA computers. The graphical nature of WORDWORTH makes producing documents faster and easier, with the enhanced printing fonts (including full Panasonic KX - P2180 and KX - P2123 colour printing support), Collins spell checker and thesaurus, no other word processor comes close. "Without doubt this is one of the best document processors for the AMIGA, Today" (Amiga Format)

NORMAL RRP £129.99 inc. VAT

INDI PRICE

£179.99

INDI PRICE

£239.99

The new Panasonic KX - P2180 9-pin quiet printer. Produces crisp clear text in mono or in 7 glorious colours with new quiet technology. The new KX - P2180 is typically 15dBa quieter in operation, than the competition.

- * **Fast Printing Speeds** 192 CPS NLQ
- * **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta, black)
- * **Quiet printing** Super quiet 45 - 48 dBA sound level (most matrix printers are typically in excess of 60 dBA)
- * **6 Resident Fonts** Over 6,100 type styles using Courier Prestige, Bold PS, Roman, Script and Sans Serif Fonts.
- * **3 Paper Paths** Paper handling from bottom, top and rear for total flexibility
- * **1 Year Warranty** for total peace of mind



The new high performance Panasonic KX - P2123 24 pin. Quiet colour printer offers leading edge quiet printing technology at an affordable price

- * **Fast Printing Speeds** 192 CPS draft, 64 CPS LQ and 32 SLQ.
- * **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta, black)
- * **Quiet Printing** Super quiet 43.5 - 46 dBA sound level (most matrix printers are typically in excess of 60 dBA)
- * **7 Resident Fonts** Over 152,000 type styles using Super LQ, Courier Prestige, Bold PS, Roman, Script, and Sans Serif Fonts.
- * **24PIN Diamond Printhead** High performance and high quality output
- * **1 Year Warranty** for total peace of mind.

Panasonic LASER PRINTER

KX - P4410 LASER PRINTER



WORDWORTH COMPLETELY FREE WITH PANASONIC LASER PRINTERS. The writers choice. The ultimate word processor for AMIGA computers

NORMAL RRP £129.99 inc VAT

KX - P4430 LASER PRINTER



Once again INDI have joined together with Panasonic to offer all Amiga owners the most outstanding Laser Printer offer ever. We are now able to offer high quality, professional laser printing at affordable prices. We are also giving away a copy of Wordworth with every Panasonic Laser Printer purchased (RRP £129.99). Whether you are looking for a laser printer to handle word processing, DTP, presentation or complex graphic applications - the Panasonic range offers you the power to meet your requirements.

KXP - 4410

- * 5 pages per minute
- * 28 resident fonts
- * Optional 2nd input bin (total printer capacity 2 x 200 sheets)
- * Low running costs
- * Parallel interface
- * Optional memory expansion to 4.5 Mb (0.5 as standard)
- * HP laserjet II Emulation

INDI PRICE

£549.99

inc. VAT

Imminent price increase.
This price while stocks last.

WORDWORTH COMPLETELY FREE WITH LASER PRINTERS



KXP - 4430

- * Satinprint (optimum resolution technology)*
- * 5 Pages per minute
- * HP Laserjet III Emulation, PCL 5
- * 8 Scalable fonts & 28 bitmap functions
- * Optional 2nd input bin (total printer capacity 2 x 200 sheets)
- * Optional memory expansion to 5.0 Mb (1 Mb as standard)

INDI PRICE

£699.99

inc. VAT

Imminent price increase.
This price while stocks last.

*(Satinprinters use optimum resolution technology to produce truly outstanding print quality. This software technique smooths away traditional jagged edges on curved characters and lines by varying the printed dot size)

WORDWORTH COMPLETELY FREE WITH LASER PRINTERS

Panasonic PRINTER ACCESSORIES



1) PANASONIC AUTOMATIC SHEET FEEDER
Automatic sheet feeder for KXP 2180/ KXP 2123 holds 80 A4 sheets. **INDI PRICE £89.99**

2) PRINT DUST COVER
Specially tailored quality dust cover for Panasonic KXP 2180/ KXP 2123 printer. **INDI PRICE £8.99**

3) PRINTER STAND
2 piece printer stand. **INDI PRICE £9.99**

4) PAPER PACK
500 sheets quality A4 paper. **INDI PRICE £9.99**

5) CONTINUOUS PAPER
2000 sheets 1 part listing paper. **INDI PRICE £19.99**

6) PARALLEL PRINTER CABLE
To be used when connecting Amiga to Panasonic printers. **INDI PRICE £8.99** (£5.99 if purchased with a printer)

7) PANASONIC COLOUR RIBBON
Colour ribbon for KXP 2180/ KXP 2123. **INDI PRICE £18.99**

8) PANASONIC BLACK RIBBON
Black ribbon for KXP 2180/ KXP 2123. **INDI PRICE £9.99**

SAVE ££££S ON THE FOLLOWING ACCESSORY PACKS

PACK 1 PANASONIC COLOUR RIBBON PACK
Contains 6 colour ribbons for the KXP 2123 RRP £119.99.
INDI PRICE £34.99 SAVE £30!!!

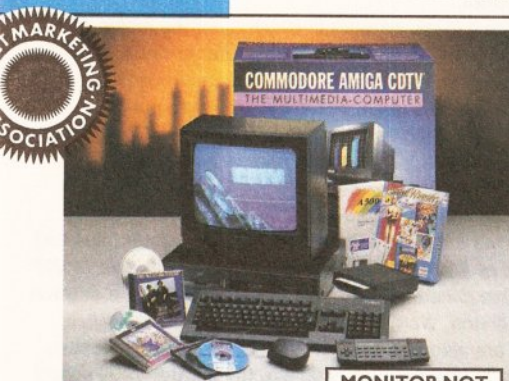
PACK 2 PANASONIC RIBBON PACK
Contains 2 black and 4 colour ribbons for KXP 2180/ KXP 2123 RRP £99.99.
INDI PRICE £66.99 SAVE £30!!!

PACK 3 PANASONIC DELUXE ACCESSORY PACK
Contains automatic sheet feeder, 2 black ribbons, 2 colour ribbons, 1 dust cover, 2 piece printer stand. RRP £169.99 **INDI PRICE £139.99 SAVE £30**

Add £2.50 carriage to all printer accessories or combinations thereof

**2 MONTHS INTEREST FREE CREDIT AVAILABLE ON CDTV EXTERNAL
HARD DISK SUBJECT TO STATUS. LOW INTEREST CREDIT
AVAILABLE ON ALL ORDERS OVER £200**

AMIGA CDTV THE MULTIMEDIA COMPUTER TOTAL HOME



MONITOR NOT INCLUDED

ENTERTAINMENT SYSTEM

The problem with any new product is that it always takes time for everyone to realise its full potential. CDTV is no exception and in our opinion everything we have read does a pretty poor job of explaining just what CDTV can do and why it is so exciting.

THE INDI GUIDE TO CDTV

IT'S A CDTV PLAYER - Yes, it will play all your Primal Scream, Pavarotti, Pink Floyd and any other CD you care to mention in superb high quality stereo, with infra red remote control.

IT' AN AMIGA - Plug in the keyboard, switch on the external disk drive and the colossal range of inexpensive Amiga Software can be used on CDTV.

A MULTIMEDIA SYSTEM - Just imagine, stereo sound, images and text all on screen. It asks a question, you respond, it responds - truly interactive! Each CD disk holds hundreds of megabytes of data with instant optical access. The whole of Hutchinsons encyclopaedia fits on to one disk. This interactive system is a unique aid for Education, Business or Leisure. The future is here!

PACK CONTENTS AS STANDARD * Amiga CDTV Player * CDTV Keyboard * CDTV I411 3.5" Disk Drive * CDTV Infra Red Remote Control * CDTV Wired Mouse * CDTV Welcome Disk * Manuals * Fred Fish CDTV Disk

INDI VALUE ADDED FREE * Lemmings CDTV (£34.99)

* Blues Brothers (£12.99) * Pipemania, Populous, Kickoff 2, Space Ace.

PRICE CRASH ~~£399.99~~

**MULTI MEDIA PACK WITH-
OUT INDI VALUE ADDED** ~~£299.99~~

CDTV CONNECTS DIRECTLY TO YOUR TV SET

AMIGA CDTV ACCESSORIES



THE BRICK - ETTE
Just plug in the brick - ette and use any wired Amiga compatible joystick, mouse or trackball device on the Commodore CDTV. The built - in 8 - bit Micro Processor gives the Brick - ette big smarts in a tiny package and makes it easy to use just plug into the remote port and it is ready to go with real time mouse or joystick movement on your screen.

No loading of driver programs or software. No need for mouse or joystick. Special settings (with 3 buttons) allow you to blast away with three rapid modes & dual fire buttons. Comes complete with Micro switched joystick.
EXCLUSIVE £49.99
Two joysticks **£59.99**



BLACK 1084S MONITOR
At last the CDTV Monitor you have been waiting for. The original and best selling colour/ stereo monitor from Commodore is now available in black to complement your CDTV.
INDI PRICE £189.99
(or £179.99 when purchased with CDTV Multi Media pack)



AMIGA CDTV EXTERNAL HARD DISK DRIVE

You've got the CDTV, you've got the keyboard and the floppy disk drive - for a total computer solution all that's needed is an ultra fast hard disk drive.

The CDTV - HD unit boasts a massive **85 Mb** of hard disk storage with lightning fast access times through its SCSI interface. The unit comes complete with Workbench 1.3 and all necessary cables.



INDI PRICE

£299.99



AMIGA CDTV SOFTWARE

EDUCATION AND LEISURE

Advanced Military Systems	£29.99	LTV - English as a 2nd Language	£34.99
Animals in Motion	£29.99	Mind Run	£29.99
Chess Disc of Records	£34.99	Mud Puddle	£34.99
Classics in Motion	£29.99	My Paint	£29.99
Cuisinier Fine Arts	£34.99	Paper Bag Princess	£34.99
Flowers & Vegetables	£34.99	Scary Poems for Rotten Kids	£39.99
Flowers & Shrubs	£34.99	Tale of Benjamin Bunny	£39.99
Flowers & Plants	£34.99	Tale of Peter Rabbit	£39.99
		Thomas's Snowsuit	£34.99
		Moving Gives me Stomach Ache	£34.99
		Barney Bear Goes Camping	£29.99
		Asterix English for French I	£34.99
		Japan World (PAL)	£49.99
		Fractal Universe	£34.99
		Read with Asterix	£19.99

ENTERTAINMENT

Battlechess	£39.99
Battle Storm	£29.99

All Dogs Go To Heaven	£34.99	Electric Crayon	£34.99
Classic Board Games	£29.99	Dinosaurs for Hire	£14.99
Hounds of the Baskevilles	£29.99	Psycho Killer	£29.99
Sim City	£29.99	Trivial Pursuit (PAL)	£49.99
Wrath of the Demon	£29.99	Raffles	£34.99
Prehistorik	£34.99	Snoopy	£29.99
Guy Spy	£29.99	Town with No Name	£34.99
Curse of Ra	£29.99	European Space Simulator	£34.99
Space Wars	£29.99	Fantastic Voyage	£29.99
Defender of the Crown	£29.99	Global Chaos	£29.99
		Turrican II	£29.99

Case of the Cautious Condor	£34.99
Super Games Pack	£24.99
Tiebreak Tennis	£19.99

MUSIC

Music Maker	£34.99
Remix	£29.99
Karaoke Fun Hits I	£14.99
Voicemaster + Microphone	£39.99
Music Maker	£26.24
Blues Brothers (Audio CD only)	£10.99

REFERENCE

American Heritage Dictionary	£49.99
Complete Works of Shakespeare	£29.99
Illustrated Holy Bible	£29.99
New Basic Electronic Cookbook	£39.99
Timetable of Business	£39.99
Dr Wellman	£54.99



DESPATCH

All orders received by 6pm Monday to Friday are despatched sameday for delivery using our national courier - Securicor. (UK Mainland only). Saturday deliveries are available at a small surcharge. If you are out when we deliver, a card will be left at your home giving you a contact telephone number to arrange a convenient re - delivery.

Delivery queries can be resolved immediately using our on - line computer.

Cheque orders are despatched immediately on cheque clearance, usually 10 working days from receipt. A delivery charge of £5.00 is made per item unless otherwise stated.

WE ALSO ACCEPT B.F.P.O. ORDERS (DUTY FREE) CARRIAGE CHARGE AT UK POSTAL RATES.

HOW TO ORDER

BY POST - Simply fill in the coupon below.

BY PHONE - phone lines open 9.00am - 7.00pm Mon - Fri. 9.00am - 4.30pm Sat. - where your call will be answered by one of our INDI sales team. After 7.00pm each day your call will be answered by answerphone. If you would like to place an order have all the details at hand including credit card. All offers subject to availability. Prices correct at time of going to press. May we suggest you call before ordering.

SEND YOUR ORDER TO:

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1 RINGWAY INDUSTRIAL
ESTATE,
EASTERN AVENUE,
LICHFIELD
STAFFS. WS13 7SF**

AS0993

Please send.....

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- 2).....
- 3).....
- 4).....

Price..... + Delivery.....

I enclose cheque/ PO for £.....
or charge my Access/ Visa No.....

Expiry...../...../.....

Signature.....

Name.....

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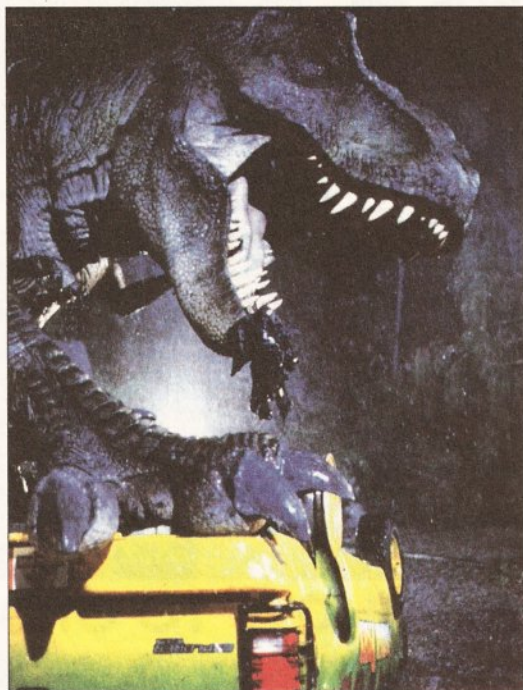
Deliver to if different.....

Daytime Tel.....

Postcode.....

TEL 0543 419999 FAX 0543 418079

AMIGA BITES DINOSAUR



Contrary to what you may have heard, the dinosaurs in Steven Spielberg's *Jurassic Park* were not created from DNA held in blood ingested by prehistoric insects fossilised in amber. They were created by an Amiga 2000 and a Video Toaster.

To be more precise, a three-dimensional wire frame model of a Tyrannosaurus Rex was created with an Amiga and Toaster. They were used by Stefen Dechant to create "animated storyboards" that helped the film's makers to choreograph dinosaur movements before rendering them on more powerful Silicon Graphics workstations. The Amiga/Toaster combination was used primarily for its speed.

These details, and a whole host of other facts about the film, are available in the book *The Making Of Jurassic Park*, published by Bantam Limited for £8.99. Its ISBN number is 1-85283-774-8.

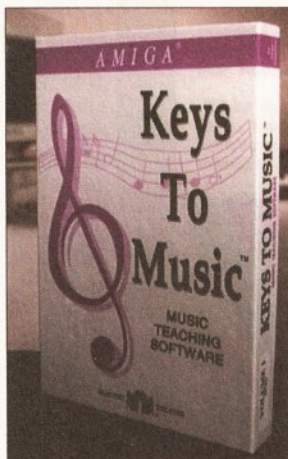
Get into the groove

Here's an interesting-sounding package for music fans. Not a sequencer or a sampler, but a package designed to actually teach music, it's already received wide acclaim in the States.

It's called *Keys To Music*, and is eventually to consist of five volumes. The producers, Electric Theatre, have just announced the release of volume two, *Learning to Write Music*. The previous volume, *Learning to Read Music*, is already in use as a teaching tool in Johns Hopkins University, Baltimore, Maryland.

Not aimed at students of any particular instrument, the programs are rather designed to give a good grounding in music to any

potential musician, from seven year olds through to professionals. They make use of synthesised speech, printed output, click-to-play examples and history to help get the message across. That message, in the case of volume two, includes tutorials on time signatures, major and minor scales and key signatures, English and Italian dynamic marks and tempo symbols, musical "shorthand", and the beginnings of musical form and composition. The program culminates in a demonstration of song writing.



Here's an Amiga music package that actually helps you learn about the subject.

The *Keys To Music* packages cost \$59.95 each, and are available from Stateside-based company Electric Theatre. Call them on 0101 215 379 4538.

Video winner

An Amiga has helped a young video enthusiast to snatch first prize in the Best Junior Entry category of the Institute of Amateur Cinematographers International Film & Video Festival.

Ben Northover created his video, entitled *Zizzy, the Balls and the Butterflies*, on an Amiga 500. His prize was a JVC video camera worth £600, donated by JVC themselves.

If you're interested in next year's competition, you can get an entry form from the IAC, 24c West Street, Epsom, Surrey, KT18 7RJ. The closing date for entries is 31 January 1994. For details on just what you can achieve with your Amiga in the way of video effects, turn to this issue's special feature, page 12.

Link into the net

Full linkage to the Internet service is now available for just £11.75 a month.

Internet is a loose network in which all of the major academic, commercial and military computer installations in America, as well as many sites from around the world, participate. It enables users to rapidly exchange mail messages, information and programs. A particularly important and useful feature of Internet is Usenet, a high-speed, international news conference.

Demon are the UK-based company that provides an Internet link via a leased line for only £10 per month, plus VAT. A joining fee of £12.50 is also charged, again exclusive of VAT. Once you have joined, you can dial into Internet at one of three locations: London, Warrington and Edinburgh.

Demon are also in a position to offer network and leased line services to users. As an example, the company will supply a network bi-directional V.32bis 14,400 reserved line for an initial charge of £750 plus £100 per month. Both prices exclude VAT. Call Demon 081 349 0063.

PHONE CORRECTIONS

Last month we printed the wrong number for the First Computer Centre in Leeds. The correct number is 0532 319444. Also, if you have had any trouble getting in contact with Hydra Systems, you might want to try faxing them instead on 0203 473 333.

HARD DRIVES TO TAKE AWAY

A new removable hard drive hits the streets from SyQuest Technology. The SQ3105S is a 3.5 inch drive, standing one inch high, that accepts 110Mb removable cartridges.

The drive boasts an average data seek time of under 14.5ms, and can transfer data at up to 4Mb per second. It connects via a SCSI interface, and is available for around £586, with each additional 110Mb cartridge costing £94. For more details call SyQuest 010 49 751 560 500.

Laser-guided output

Another printer enters the laser war, this time from Xerox. The Xerox 4011, at £1,375, is a printer aimed primarily at business users.

The compact little unit will print up to eight pages per minute, and is connectable to a computer via a serial or parallel interface. It comes with a variety of emulations: HP Laserjet III (PCL5), HPGL 7475A, Epson FX-80, Diablo 630, IBM ProPrinter II and XES. If you need PostScript, then you'll also be interested in the optional XScript

support, which is Xerox's PostScript emulation.

3Mb of memory is supplied with the printer, which should be enough for most purposes. But if you need more, you can expand it to 5Mb. Print resolution is 300 dots per inch.

Up to 250 A4 sheets can be stored in the printer's tray, while envelopes, transparencies and so forth can be fed manually. A second paper tray is available as an option.

You can get a Xerox 4011 for £1,375 from Xerox 0895 251133.



Xerox's 4011 is a compact laser printer that's ideal for small businesses.

Power's RAMming speed

Power up your Amiga 1200 with a new memory expansion from Power Computing.

The company's PC1208 fits into the A1200's trapdoor and can take either a 1, 2, 4 or 8Mb 32-bit SIMM. The board's zero wait state feature ensures that you'll get the best possible speed from your A1200, and its real-time battery-backed clock will enable you to date-stamp all created files. An optional floating point unit, for intensive maths calculations, can also be fitted to the board. It will accept an FPU in either PGA or PLCC form. The board's final feature is that, unlike some others (although we've not come across any that do) it doesn't conflict with the A1200's PCMCIA slot, even when expanded to 8Mb.

Prices range from £70 for a bare board and £115 for a 1Mb version to £465 for an 8Mb board. Floating point units range from £25 for a 68881 clocked at 20MHz to £115 for a 68882 clocked at 50MHz.

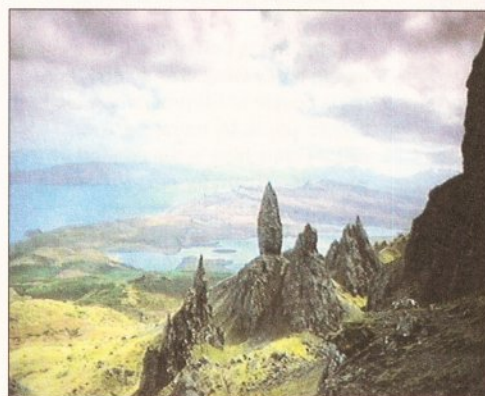
For more details call Power Computing ☎ 0234 843388.

Amigas provide universal language

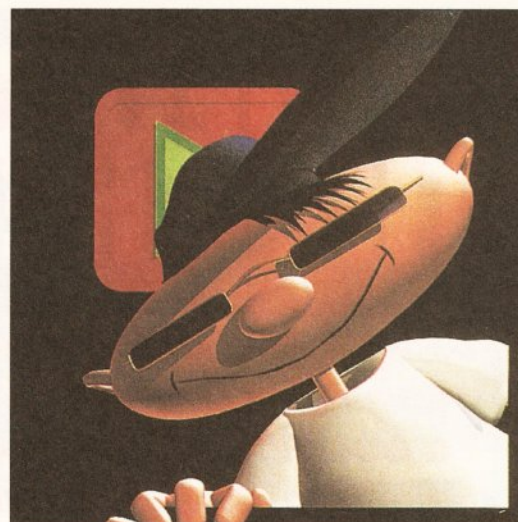
A computer is being used as the host of a show by the BBC in their latest *It's A Knockout*-style TV programme.

The show is for children in the nine to thirteen age bracket from all over the world. They join together to compete in a variety of outdoor challenges designed to test mental and physical agility, as well as to encourage international cooperation.

The language barrier is broken down by the computer personality Herman, who leads the audience through the game by means of internationally-recognisable symbols and pictograms. Herman was created on an Amiga 4000, with the aid of packages such as *Deluxe Paint IV*, *ImageMaster* and *Art Department Professional*. Called *System '93*, the show runs every Sunday on BBC2.



Most of VideoWorld's backgrounds are, well, backgroundy, but this one is particularly nice.



BBC2's Herman is the latest example of the Amiga's widespread use in television. Isn't he cute?

Background info

A range of high-quality background pictures aimed at video enthusiasts is being released by VideoWorld Multimedia. All of the images are stored as IFF files, in AGA colours and resolutions, although they are available on request for pre-AGA Amigas.

There are currently six sets available, each containing ten disks and selling for £29.99. They are: *Papers*, including parchments, marbled and embossed; *Fabrics*, including silks, cotton and leather; *Textures*, including wood and stonework; *Travel*, including famous landmarks from around the world; *Weddings & 1st Communions*, including parchment, scrolls and flowers; and *Introduction*, which contains a selection of images from the other five sets. You can buy the whole range for £130. Contact VideoWorld on ☎ 041 641 1142 for more information.

STATESIDE

Our American cowboy, Bob Liddil, files the last of his reports from the good ol' US of A.

Well, pardners, it's time for me, like all the best cowboys, to wander into the sunset, a glint in my eye the only indication on my grizzled face of satisfaction at a job well done. This is the last *Amiga Shopper* column

I'll be writing; my work here is over.

If the truth be known, the summer of '93 hasn't been a very good one at the Amiga Ranch, USA, except for those buckaroos who are involved with the Video Toaster. If rumors are to be believed, Commodore USA might not be far

behind me on the sunset trail.

One rumor has Sony looking at buying Commodore. Given Sony's investment in the motion picture and entertainment industry, that might be a smart move. They have already purchased Psygnosis, a major software player in the Amiga market, and they have the financial firepower to back up a promotional push to bring the Amiga back to the forefront of the industry.

Another rumor has Commodore closing down its US division completely. This is one story that has been getting stronger every day. Considering the level of incompetence displayed by the current administration of Commodore US, it might be a wise move on the part of the parent firm. I honestly believe that Commodore US at present couldn't sell ice in the desert at high noon.

All the signs point toward disaster. Recently, a potential new Amiga dealer in the USA called in for details on how to buy the Amiga for resale. The secretary to the sales rep who sat there discussing the Amiga's bright future was packing the fellow's bags – he'd been sacked the day before. The terms offered to the dealer were so abysmal that he just laughed and hung up the phone. Now

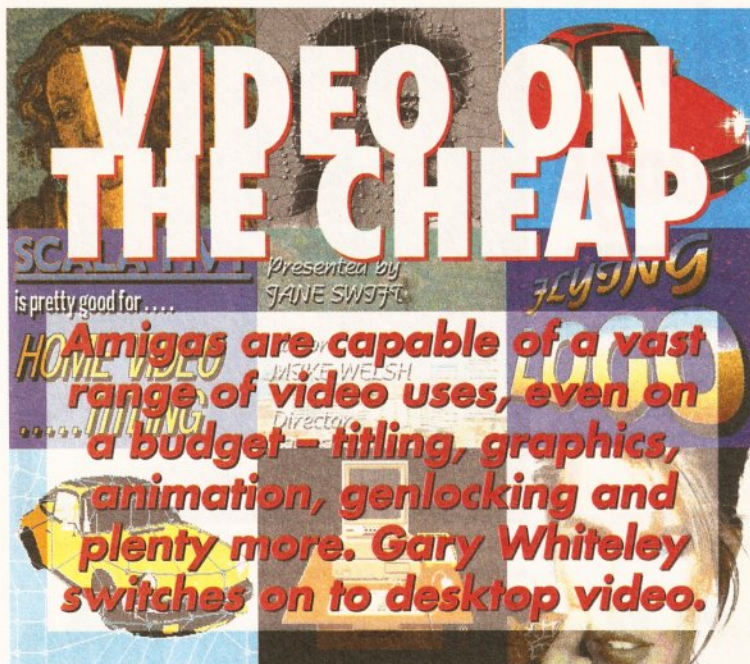
he sells IBM clones and they move like Corvettes on the Indi speedway.

All over America, Amiga dealers are crying out in pain. The computers are moving slowly, company support for dealers is virtually non-existent. Venerable software manufacturers have said, "enough!" and have abandoned the Amiga. Among vendors, only NewTek and companies associated with the graphics, rendering and broadcasting industries seem to have any hope of continuing life for the Amiga.

But whatever happens to Commodore USA, whether they stick it out or fold it up, one thing is for sure – Amiga fans will not forsake their darling. The owners of these magnificent machines will fight for their platform to the last volt of electricity. User groups, independently formed and funded, do not depend on Commodore but rather on each other. I predict that even though the US company is staring the Grim Reaper in the face, they will never die completely. God protects simpletons and children, but I wouldn't say which of these run Commodore USA.

It's time for me to hit the trail and ride. There's just time for one last whoopee-ty-yi-yea and a final, fond farewell.

AS



One of the many outstanding features of the Amiga range of computers is that they can all be used for video work – from the most basic A500 to the most powerful A4000/040. Amigas are in daily use in video studios across the world, as well as in home or hobby productions.

But although it's easy enough to load up *Deluxe Paint IV* and knock out a couple of nice title graphics, what then? What equipment do you need to copy your graphics to

videotape? What kind of a monitor might best suit you? Which cheap genlock will get the job done? These questions and many more will be answered in the following pages.

Of course, a bog-standard Amiga 500 cannot do everything a TV studio mixer, frame-grabber and £30,000 worth of kit can do. But there are so many video-related tasks that your Amiga can perform – even if you have to resort to low-resolution or fewer colours if memory is tight.

• **Titling** is one of the most popular video uses for the Amiga, and there

are plenty of low-cost programs that work fine on all but the oldest Amigas, plus huge numbers of bitmapped fonts suitable for titling available in the public domain, often costing only pennies per style.

• **Genlocking** enables you to synchronise an Amiga to incoming video signals and generate smooth wipes, fades and dissolves, as well as overlaying Amiga graphics over video images. It's a must for the professional look, but you can get a genlock for well under £100.

• **Morphing** is one of the latest image-processing crazes, and there are a couple of PD programs which enable you to try morphing and picture-crunching in the comfort of your sitting-room for next to nothing.

• Then there are the Amiga's legendary **graphics** and **animation** capabilities, and there's always more, from **digitising** to **special effects**, continually becoming more and more affordable.

HOW MUCH IS CHEAP?

Let's get one thing clear. "Cheap" doesn't necessarily mean "free". Like every hobby, video costs money

CRASH

Crash editing is a rough-and-ready method of video editing. It isn't particularly accurate, nor is it pretty to do, but it can be successful, up to a point. All that's needed are two VCRs (or a VCR and camcorder as source), quick eyes and an even faster finger. A refined method involves using a stopwatch to more accurately judge the edit points. Much of the skill involves judging how inaccurate your video deck is and compensating accordingly, but the procedure is something like this:

Link your VCRs together (both sound and vision – RF if you want), and put your record machine in Pause and Record. It helps if you have a tape in it too. On the source VCR or camcorder, find the first images you want to edit on to the record machine and line up the

– and could soak up all you throw at it. When you add together the cost of an Amiga, its extras such as disk drives, hard drives, memory, monitor and software, you're already looking at a substantial investment. Throw in one or two video decks, a genlock, a camcorder and a couple more monitors, and you really need to be sure video is what you want to do.

But you've already got an Amiga, plus probably a few of the add-ons that give it more than enough power for video applications, and most households have a VCR, so you're well on the way to the complete set-up. We're here to show you some of the many ways that you can at least get a taste of "Desktop Video" before making an expensive commitment and taking the full plunge into Amiga videography. You

HOOKING IT ALL UP

As you'll probably appreciate, there are quite a few variations when it comes to hooking all the various bits of kit together and recording your titles and graphics. With the simplest set-ups it should be pretty straightforward, but things can get a little more complex when it comes to genlocking – especially if you are using more than one monitor. But it's really quite easy, and a little thought and a bit of practice goes a long way.

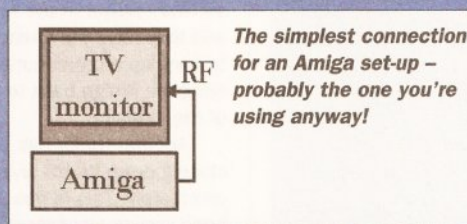
1. The modulator connection

This is the simplest (and cheapest) arrangement for getting graphics out of your Amiga, particularly if you have an A600 or 1200, since these already have a modulator built in.

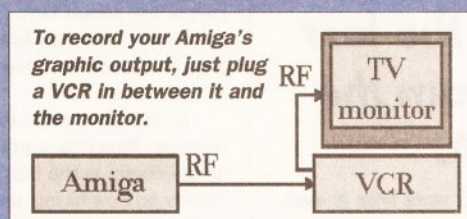
Incidentally, if the modulator (or even the Amiga, in the case of the A1200) has a composite video output, you'd be better off using it, because the picture quality will almost certainly be superior to that of the RF signal. The one disadvantage is that all the various parts that make up a TV signal are included in an RF feed – sound as well as vision – and the one simple connection makes it easier to use than composite outputs. But if you can figure out how to connect the various sound and video signals to your VCR and get them to record (I'd advise you to read the manuals) then separate video and sound feeds is a better way to go. Of course this depends on how keen you are on improving your image.

The most basic hook-up arrangement is just to

connect the Amiga's modulated output directly to a TV – in which case you'll only be able to see, and not record, your Amiga's output.



However, it's not much harder to record your graphics. Simply insert a standard video recorder between the Amiga and TV, passing the RF signal into the aerial socket and then out to the TV.



And that's just about as far as a modulated connection can go. Since neither genlocks nor digitisers are capable of using RF video signals there isn't much you can do with them beyond recording them to tape or watching them on TV – but this basic connection does mean that anything

you can show on-screen, you can record as well. Instant desktop video! It is possible to crudely edit RF inputs into some kind of sequence (see the panel headed "Crash Editing" above), but there is no scope for any of the fancy tricks that using "real" video signals and genlocks makes possible. So for the really serious possibilities you have to look at genlocks – but that needn't mean an outlay of any more than £50 (see page 14).

2. Composite and YC connections

Composite video is a good all-round compromise between quality and cost. The signals it carries are considerably better-looking than RF, with the added bonus that they can be used to drive genlocks, as well as be recorded directly to tape. The same routings also apply to YC devices – the main difference (apart from the image quality) is that YC signals are carried through two wires instead of composite's one.

Our simplest genlocking setup uses a TV for both the Amiga and video display. The main drawback is that if you're used to seeing crisp RGB output from your Amiga then you will probably be disappointed at the somewhat degraded output you see on the monitor instead. However, this is pretty much par for the course – the RGB signal has to be converted into composite video for recording, resulting in some noticeable quality loss. There are ways to minimise this (see the box headed "Genlocking Hints and Tips" on page 16),

EDITING

start point as accurately as possible. Hit Pause.

Both machines are now in Pause – the recorder in Pause/Record and the player in Pause/Play. The trick is to release both Pause buttons at exactly the same time. The images should then be transferred to the recorder. When the scene is finished hit Pause again on the record VCR, find the next sequence on the source VCR and continue editing. With some practice you can achieve quite reasonable results, though they won't compare to properly-controlled sequence editing.

If your video equipment has the right connections and features you will be better off getting hold of Gold Disk's *Video Director* editing software, which at least will give you a degree of control over your editing.

may find you can do everything you wanted to do without any substantial extra outlay at all!

THE BASIC HARDWARE

The first essential is obviously an Amiga. Some extra memory and a second disk drive will help too.

Then you need a video monitor of some kind. There's a wide range, from the standard domestic TV set to those high-spec multisyncs that will cost you an arm and a leg. For cheapness, a colour TV is probably the favourite all-round solution, especially if you use your Amiga mainly for playing games, but a better choice for video work would be an RGB monitor such as the Commodore 1084 or Philips 8833 models, particularly since they can accept composite video inputs. For

more complex video applications it's worth having a second monitor so that you can not only view what's coming off your Amiga but also check the final video recording output.

Third, you'll need a video recorder if you want to record your efforts. A standard domestic video deck will do – VHS, Betamax or

whatever you can get, as long as it has a video input that can be used with the output from your Amiga, modulator or genlock.

Don't forget some videotape too. Best buy a new tape, and don't scrimp on the tape costs, because although we're talking about video on the cheap there are absolutely no gains to be made from using cheap and nasty tape. All you'll get is drop-out, tape stretch, snagged tape and bad recordings – and, worse still, you could risk damaging your VCR. Cheap tape really isn't worth the risk!

AND THERE'S MORE...

There are some further things that you might need, depending on your ambitions and your Amiga.

If you have an A500 and you use an RGB monitor, you may already be

wondering how you can get video out of it when it has no visible video output. There are two solutions: the first is to use a modulator, such as Commodore's own A520 (if you can still find one) or Lola's new L520 "TV Adaptor" (£29.95), both of which can be connected to the Amiga's RGB socket to provide either RF or composite video

outputs. A second but more expensive method is to use a genlock, which you'll need anyway if you plan on overlaying titles and graphics over video images.

If you want to use a genlock you'll also have to supply a video signal to it, so a second VCR will be necessary to play back your video footage. This could be either a camcorder or a full-size video deck – it doesn't matter as long as it is compatible with the genlock.

One final piece of useful kit is a video digitiser – a magic box which turns video images into pictures that your Amiga can display and use. If you are a terrible artist, or fancy a bit of fun with that wedding tape of your sister's, a digitiser could be just what you need. More on this later.

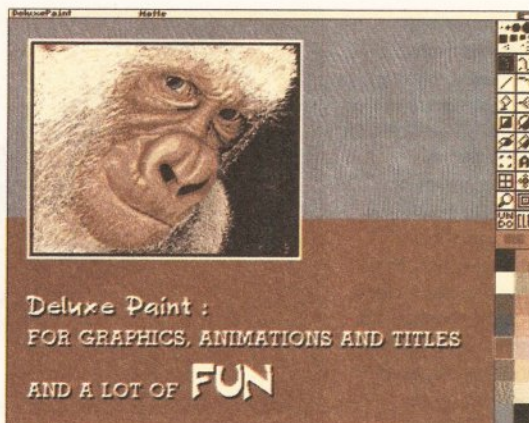
All this seem like too much to

scrounge? Maybe you could get together with a few friends (who coincidentally just happen to have some of the video equipment you need) and produce a short film. As well as being a great way of having fun, it could also be an excellent way of learning more about video and graphics – and finding low-budget solutions to your needs.

GOING SOFT

In most cases, good software costs money – though not every bit of costly software is always worth the expense. On the other hand, there are a few programs which cost very little, or are even free. But don't necessarily expect too much from these – they are often quite limited in what they can do.

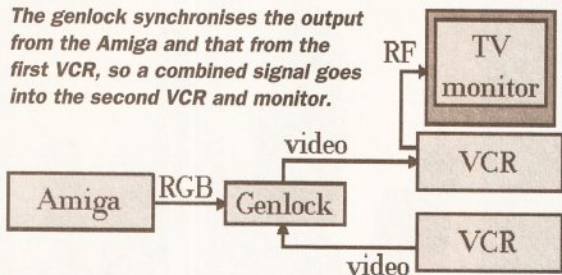
For most video work you will



Deluxe Paint :
FOR GRAPHICS, ANIMATIONS AND TITLES
AND A LOT OF FUN

Deluxe Paint – the mainstay of Amiga graphics, still going strong after seven years and now in version 4.

The genlock synchronises the output from the Amiga and that from the first VCR, so a combined signal goes into the second VCR and monitor.



a video source – in other words yet more hardware.

The video source could be a camcorder or another VCR. If you were going to genlock titles over video you'd need this video source anyway, so it really isn't an extra unless you only wish to output Amiga graphics. But I'm afraid it's an expense you'll have to bear.

If you just want to make sure that the Amiga graphics record well to tape, try either feeding a video output directly

from a camcorder (that is, don't play a tape back, just use the camera's video output) or supply a video out from a VCR which is using off-air television signals. In other words, plug your normal aerial lead into the source VCR as you normally

would and take the true video output (not the RF output!) to the genlock. Either way, this will keep the Amiga stable while not inflicting unnecessary wear and tear on the video heads, which is particularly important where camcorders are concerned – unless you don't mind regularly replacing worn video heads, that is.

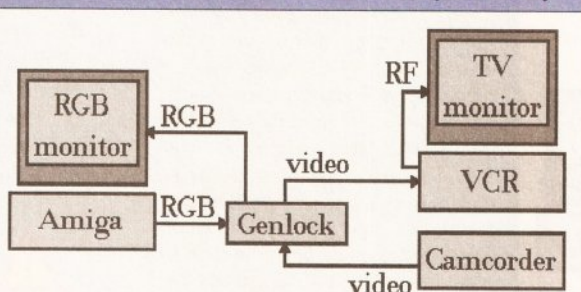
3. Downstream keying

And finally, the downstream keying setup mentioned earlier. I don't expect that you'll be putting a downstream keying titling system together (as in the final hook-up diagram overleaf), but I've included it to show you that genlocks don't always have to be the first port of call for an incoming video signal. In fact, if a vision mixer is being used this is usually the best arrangement, since wipes and fades will not affect the graphics overlaid on them, giving your video productions a much more professional feel – which is, let's face it, what often makes or breaks a production.

If the genlock is capable of it the graphics can be faded up and down over the pre-mixed video and, if you are organised enough, a great deal of the hard work can be done in one pass of the videotapes, rather than having to first make a mixed tape and then overlay the graphics on it at a later stage.

By using downstream keying you can avoid a complete generation of copying, keeping the

continued on page 14



This set-up gives you crisp RGB output on the first monitor, without the loss of quality in the set-up above.

require several different software packages, simply because there is no single program which fulfils all the requirements of even the most impoverished videographer. For graphics you'll need a paint package, for titling you'll need a titling package and for even more specialised applications such as video editing you'll need an editing package.

On the graphics and titling side there is no doubt that *Deluxe Paint IV* is the best choice if you can only afford to buy one piece of software. With its wide-ranging abilities to handle fonts, graphics, animation and a number of different screen formats, *DPaint* is an essential part of the Amiga graphics toolkit. And because it is so versatile it offers excellent value, particularly if you manage to pick up an older version cheap – though it's not advisable to go for versions any earlier than *Deluxe Paint III*.

There are one or two PD paint programs available, such as *FreePaint*, though none of them can really hold a candle to *Deluxe Paint IV*. If you are determined to be completely miserly then go entirely



Lola's MiniGen is good value at £50 but lacks an RGB pass-through, so you can't monitor the ingoing signal.

for PD – but remember that you won't get nearly as many features. However, if it works for you, then fine, it could be all you need.

GENLOCKS AND MODULATORS

At the moment there's very little choice of which modulator to buy – there's only one, Commodore's A520, though it is nowadays rather difficult to come by. But help is at hand: Lola Electronics are about to release a new modulator for the Amiga. It's called the L520 and will cost £29.95.

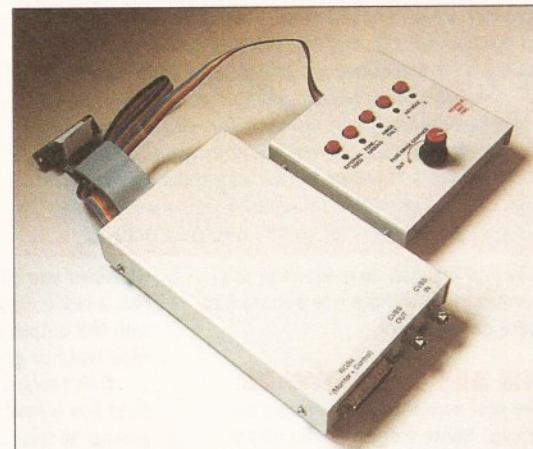
A modulator is only useful for converting your Amiga's RGB signal to either composite video or RF outputs, but a genlock can be much more versatile. In addition to overlaying graphics onto video, a

genlock can also be used to output Amiga graphics directly to videotape (just like a modulator). Some of the more expensive YC models can also convert composite video to YC and vice versa, but they aren't cheap enough to mention here.

If you want a genlock at a rock-bottom price then the choice has to be Lola's MiniGen at £49.95. Quality is pretty good and it performs better than some genlocks which cost at least three times as much. The main drawback is that it has no RGB pass-through, though this won't be a burden to those without RGB monitors.

If you want an RGB pass-through, then a second-hand Rendale 8802 is worth rooting out (you should be able to find one for well under £100). If you also want faders for dissolving between Amiga graphics and video, then you'd do well to investigate Marcam's Rendale 8802FMC at £178. Commodore's A2300 genlock (a basic affair at best) is also being sold off very cheaply at the moment – for as little as £50 – though it's only useful in Amigas which have a free video slot, such as the 1500

and 2000. You could also take a look at RocTec's RocGen Plus (£149.95) – it is quite popular, though personally I don't really like the picture quality it provides. The best way is to see it for yourself. Lastly, if you want cheap YC genlocking check out GVP's G-Lock



The Rendale 8802FMC throws in RGB pass-through plus faders for elegant dissolves between signals.

(£299). It has some strange quirks (including requiring you to boot the Amiga twice) but it represents good value since its recent price cut.

YOUR NAME IN LIGHTS

Once you've got connected – see "Hooking it all up" on page 12 – you can turn your attention to some of the applications you can use your Amiga/video set-ups for. For this you'll require some software to bring

HOOKING IT ALL UP CONTINUED

continued from page 13

quality of the final video recording that much better. But such a set-up requires some considerable financial outlay – not only is a video mixer required, but also some way of controlling all three video machines simultaneously. This means you need an edit controller and maybe even a couple of timebase correctors – none of

which could be considered "cheap" by any stretch of the imagination. At least you can see where all this might lead – if one day you get hooked by the video bug.

4. The connectors

There are one or two things you should remember when hooking up your video and Amiga

equipment. The first is to use suitable cables. Don't give in to the temptation to use any old cables that have the right connectors on them. Why? Mainly because using the wrong type of cables will often reduce the quality of your video signals. Audio cables are designed for audio, so don't expect them to perform especially well with video. If you have no choice, you can use such cables (there is very little chance that they will cause any damage to the equipment) but remember that they could well affect the quality of your work.

The second thing is not to get confused by the different connectors. It is easy for those new to video to mix up RF and Phono plugs and sockets. I often hear stories of people who've tried (unsuccessfully, of course) to connect an RF output from a VCR to a video input on a digitiser, simply



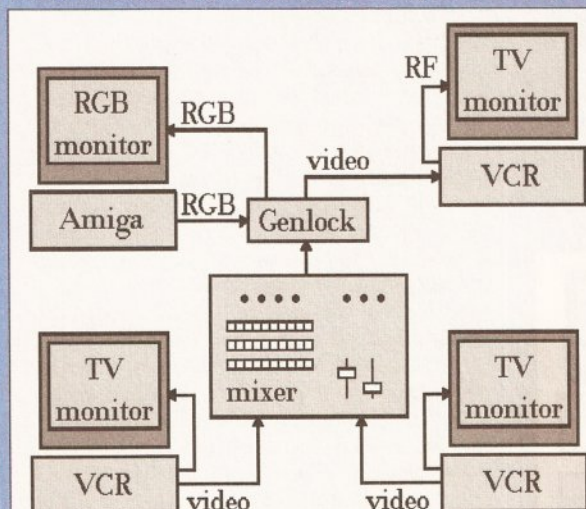
Don't get confused by the different types of video connector, especially if you're new to video. The ones pictured here are (clockwise from right) BNC socket, BNC plug, RF plug, RF socket, Phono socket, Phono plug, SCART connector, 23-pin D connector (Amiga RGB port).

because they thought that the two connectors were compatible because they had a similar fitting – it is an easy mistake to make. Keep your eyes open, and always double-check your connections.

And don't forget that you should have your Amiga switched off if you are making or removing connections to its RGB, disk drive, printer or serial ports. RF and video connections can be made at any time – there's no need to power down.



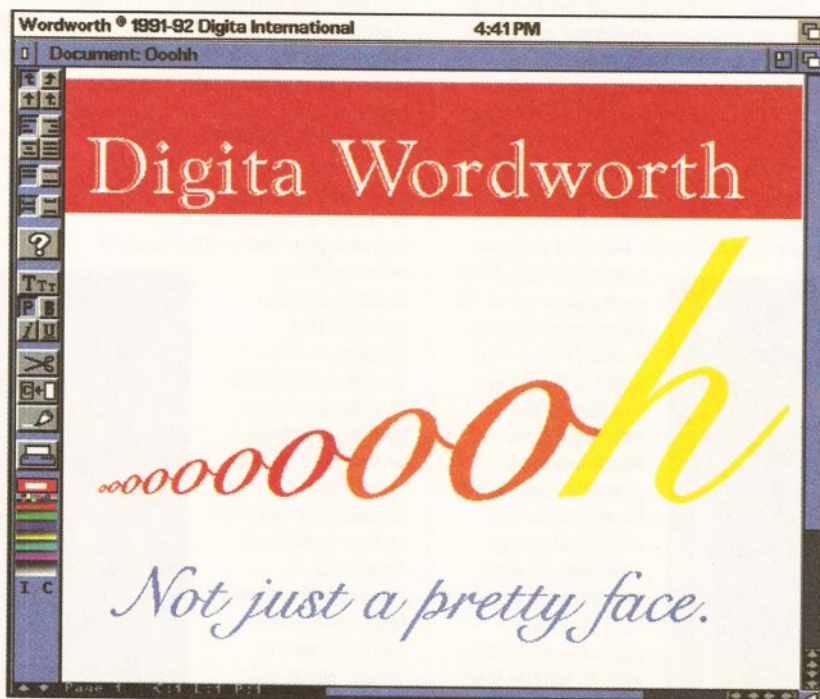
CAUTION



The ultimate, the pinnacle, the set-up least likely to be called cheap.... "Downstream keying" minimises the number of times a signal is copied – but takes a lot of kit!

AGFA
VERSION

Nine reviewed One winner*



* Word processor roundup, Amiga Shopper, May 1993

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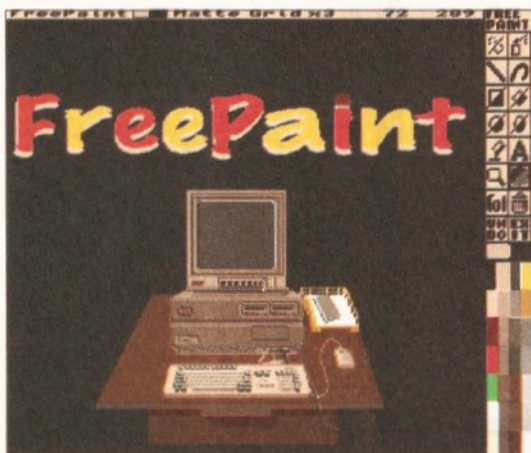
—A member of the Digita group—

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the computer to life, so first let's look at that most popular of Amiga video uses, titling.

Titling covers a multitude of forms and styles, from the simplest page of text scrawled on a blank screen to complex rolling credits and custom-designed animated logos. There are endless creative possibilities, and many of them can be achieved for minimal outlay.

You may already own *Deluxe Paint* – it has been bundled with many Amiga packs over the years. If you don't, and you're strapped for cash, track down a copy of *FreePaint*, available on Fish Disk 627 from PD libraries (see the directory on page 102) or BBSs. It is very reminiscent of *DPaint*, though it has far fewer features – which isn't a criticism, since it is free software. Most of the basic paint tools are included, though nothing too refined, and *FreePaint* is probably the best non-commercial paint software currently



It might not be in the same league as DPaint, but with FreePaint you can try your artistic skills for nothing.

available on the Amiga – it even has some rudimentary animation functions. Keyboard equivalents are available for many commands and there's even printing included. However, it was written before the new AGA graphics chips were released, so the maximum number of colours available is 64.

So now you've got a paint program, what can you do with it as far as titling is concerned?



Make an animated mask using Deluxe Paint...

GENLOCKING HINTS AND TIPS



• Low-cost genlocks usually need to be fed video at all times, otherwise the Amiga's picture output can become unstable.

Incidentally, be wary of formatting disks while a genlock is connected to your Amiga – the incoming video signal can cause slight timing errors which can corrupt the disk.

• Don't expect to get good results if you try to genlock to poor quality video signals, such as those produced by old, worn or bargain-bin VHS tapes. The Amiga's timing

relies on synchronising pulses decoded by the genlock from the video signal, so if the signal is poor then the Amiga won't be as stable as it should be.

• Avoid the use of very bright colours in your graphics – deep blues and full reds are particularly prone to smearing. If you must, a thin dark outline around them can often work wonders.

• Use the best quality video cables and connectors you can afford. Audio cables are not really suitable and will more than likely cause picture degradation.

• Make pages of text that you can display as titles or credits. If you use *Deluxe Paint IV* you can set them up as an animated sequence and either play them back automatically or preferably control them manually, making sure you can read each page fully before moving on to the next. If you use a paint program that can't animate you could always produce a sequence of frames, turn them into an animation with *Rend24* and play

then back with *View* (see pages 19 to 20 for more on these).

• Use *DPaint IV* to make a flying logo, by utilising its **Animation** and **Move** features. (*FreePaint* users will have to skip this one.) Just design your logo (or grab one in and clean it up if you have a digitiser) and then spin it, tumble it or do whatever you like. If you have a genlock you could key the logo over a

video image for a better impression.

• Make an animation with *DPaint IV* (or single frames with *FreePaint*) which will first wipe a title on and then wipe it off again. This isn't as difficult as it sounds: for instance, first design your title, then make 21 frames (using lo-res overscan if your Amiga doesn't have too much memory). You'll find that your title has been copied to each of these frames, so all you have to do now is

progressively make it look like the title is being wiped on by erasing the title from the first frame entirely and then gradually erasing less as it approaches the middle frame. To make it disappear again, just wipe over the title bit by bit until you have a completely black final frame. You could even design your own wipes.

• A variation of the previous method is to use a "scratchback" technique to make your text or titles appear

letter by letter, building up from nothing. This involves some simple calculations. First type out your text, and arrange it as you wish. Count up all the letters and spaces and then set up the number of frames to correspond with this total, plus a few extra frames for safety. Go to the penultimate frame of the sequence and erase the last letter on the page. Move back another frame towards the start, erase the last two letters, then move back another page and remove the last three letters. Continue in this vein until you reach the first page of the animation, by which time you should have removed all the letters. If you come to a space, treat it like a letter and "remove" it too. When you come to play the animation back you should see a Teletype effect as the text appears

on screen letter by letter and line by line. Effective, if time-consuming.

THE REAL THING

Good though *Deluxe Paint IV* is, for moving titles it can't compare to most of the commercial titling programs for the Amiga, and even the PD ones leave it standing when it comes to scrolling text – which is, let's face it, the most popular style for displaying credits on film and TV



With Deluxe Paint IV you can create a flying logo that actually does what it says – spin, tumble, whatever.

programs. To do these kind of effects you need to turn to more specialised titling software.

There are quite a few titling programs – some are PD, most are commercial, but all offer features that cannot be found elsewhere. The cheapest are obviously of the PD variety, and a couple are worth particular mention: *Video Titles* and *VideoLab* – both written in AMOS. Of the two *VideoLab* offers more



... and combine it with a graphic using a genlock...



... to produce your own custom wipe patterns.



The three common ways of moving text on screen:



... scrolling (vertical), crawling (horizontal)...



... and subtitling, all achievable with PD programs.

flexibility, enabling both vertical and horizontal scrolling, backgrounds, shadows, speed variation, text importing, various text styles, with fade and cut effects thrown in for good measure. It certainly works, though my Workbench 2.1 Amiga had a few problems coping with it. It performs fine on WB 1.3 machines though, and probably 2.0 as well, but

Video Titles is rather simpler, allowing just scrolling and no other fancy stuff beyond its own user interface. It's basic, but just about usable, and again it costs £3.50. I'm told a revised version is planned, but when this might appear is said to be anyone's guess.

There are other PD programs, including TitleGen and SportsText,

offered by PD houses as video titling programs but frankly they are pretty grim affairs, dating back almost to the dawn of the Amiga, and most of them should have been put out to grass long ago.

The best-value commercial scrolling software still seems to be the Soft Alternative's Big Alternative Scroller (BAS). Although it's been knocking around for a few

years and offers no multitasking and no hard drive loading, it still works fine – smooth scrolling and crawling, a good variety of typefaces and a

choice of colours, text justification and speed control. Not bad for £40, especially considering that it works on virtually any Amiga.

If you want something a little more sophisticated the next step up is the recent revision of BAS – Scroller 2 (£80). It offers more typefaces, better font control and layout, a convoluted ability to incorporate graphics, and more control over presentation and timing. In many respects it is a superior program, though it retains some of the quirks of BAS and it still doesn't multitask or run from hard disk. Still, Scroller 2 does the job and it looks good too, so why not give it a go?

If you want something that does rather more than scrolls and crawls you should consider Scala HVT (HVT = Home Video Titler), the lowest-priced of the Scala range of multimedia and titling programs. It offers a whole range of features from

text transitions to wipes and other screen transitions. It can use IFF images for backgrounds (though extra memory is handy here) and incorporate brushes into presentations. Note the change of emphasis here – Scala HVT is a "presentation" program, which means it does somewhat more than a video titler, even if it can't scroll as

Scroller2

- [F1] Vertical scroll.
- [F2] Horizontal scroll.
- [F3] Edit text.
- [F4] Set scroll parameters.
- [F5] Set colours.
- [F6] Set font parameters.
- [F7] Font menu.
- [F8] Disk menu.
- [F9] Set keyboard type.
- [F10] Video options.

ScrollerII
Program Copyright
Tim Moore
1992 1992
Design & Graphics
The Soft Alternative
Copyrighted 1992

Scroller2 has all kinds of features to make scrolling that bit more exciting than using BAS!

I won't swear to it. Its scrolling is a bit jerky with larger fonts, but for £3.50 VideoLab presents an ideal introduction to video titling.

SCALA HVT
is pretty good for
HOME VIDEO
TITLING

Scala HVT provides a low-cost entry into DTV presentation suitable for low-end Amigas.

smoothly as either BAS or Scroller 2.

As far as costs go, Scala HVT probably represents the zenith of low-budget titling software (if you

GETTING YOUR CREDITS TOGETHER



As a final word on titling and credits here are a few tips which will help you do a better job with those all-important name-checks.

- Before you actually start generating the titles on your Amiga make a list of everyone concerned and decide what order their credits will run in. This is important, because it can often be awkward to change your running order once you've laid it out. Maybe you'll want to keep the technical jobs (camera, sound, editor, etc) together, and certainly the film's thespians should have their own block of credits. Whether the director and the "stars" get larger credits is entirely up to you – and the egos of your leading players. A well-drawn up list will save a lot of arguments at the end of a production.

- Don't use garish colours unless it is absolutely necessary for artistic reasons: bright reds, blues and greens tend to look nasty on video – at least at the VHS level. Use lighter shades – yellows and

Anti-Alias for smoother edges

Outline for clearer edges

Use antialiasing to smooth out the edges of your text, or outlining to sharpen its edges when genlocking, especially on bright backgrounds. whites – and put dark outlines around them if colours start looking smeared.

- Keep it simple – the idea is to credit the participants, not give the viewer a headache. Two text colours and a shadow colour are often all that is required.
- Use lettering which is large enough to be easily read some distance from the screen. There's no point in using very small text because the lower-end video formats (in particular VHS) will have trouble resolving it properly. Avoid typefaces which are very decorative or have thin lines in them – these often won't work well either.
- Make sure that you can comfortably read the text at least twice while it is on screen. There's no point in having a credit list if no-one can read it. This applies particularly to text that is scrolling or "crawling" (scrolling sideways).
- If you are going to genlock the titles over a video image, don't forget that the background of the titles should generally be produced in palette colour 0. Some titling programs do this automatically, but do check.

consider around £80 low-budget). However, this is cheap for all the features it has, and the added flexibility it brings to video titling. Even if you just want to do fancy things with text, *Scala HVT* can be a great help – it has all kinds of nice layout features, bold, italic, underline, tabbing, shadows, 3D look, easy cut and paste, outlines, palette control and more.

So, in order of overall low-budget titling usefulness the first choice has to be *Deluxe Paint IV* (even though it can't scroll), followed by *Big Alternative Scroller*, *Scala HVT* and *Scroller 2*. But don't forget *VideoLab* and *Video Titles* if you want "no budget" software.

DIGITISING

Being able to grab images from a videotape or camcorder can be really useful. Photographs, video clips and live scenes are all within the grasp of even the low-budget Amiga videographer. With good-quality digitisers now costing as little as £70 it's really quite easy to get started in this fascinating field.

What can digitising be used for? • Grabbing a picture to use as a background in an animation, as part

They do this by first splitting the colour video signal into its red, green and blue components – usually by means of an electronic colour splitter, though not always. The RGB data is then passed through to the Amiga, often via the parallel (or printer) port and converted with the digitiser's software into IFF or other Amiga-compatible images. It is a process which

can take just a split-second in the case of the more expensive "fast scan" models (which use special memory areas called Framestores to temporarily store the video images) but this kind of digitiser costs from £300 upwards, so we'll not pursue them any further here.

Rather, we'll turn to the cheaper, though no less rewarding, "slow scan" digitisers. One slow scan digitiser stands head and shoulders above the competition (not that there are many to choose from). This is

Rombo's Vidi Amiga 12, which can be had for as little as £80 and offers superb value for money. It accepts both composite and YC video (for better grabs) and can operate in all the Amiga's graphics modes, including

AGA. It grabs pretty quickly in colour and virtually instantly in black and white, which makes it suitable for grabbing monochrome sequences direct from videotape. It even uses the Amiga's screen as a monitor, so you can see what's happening with the incoming video. In fact, it really is the king of cheap digitisers. Even the image quality is good – though this of course depends on the quality of the images you feed it.

Vidi Amiga 12's closest competitor is the new "real-time" Vidi Amiga 12 RT, which costs about £100 more, but I feel duty bound to

mention the original Amiga digitiser – NewTek's DigiView Gold. It's more than a little cumbersome these days, but it can still turn in a nifty-looking grab if you have the time to spare. But it's a purely monochrome digitiser, meaning that to get colour results you have to use either an electronic colour splitter (if you wish to input colour video) or a set of

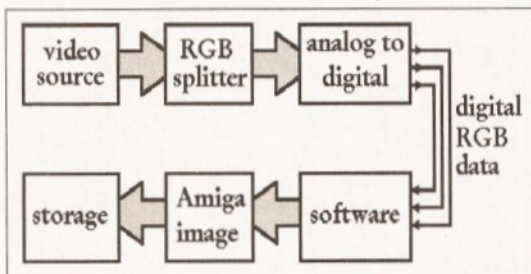


When it comes to low-cost digitising, Rombo's Vidi-Amiga 12 takes the honours for as little as £80.

DIGITISING – THE BAD NEWS

Now that you've read the good news on cheap digitisers, here's some that's not so hot. Digitising from videotape with a slow scan digitiser requires that the video deck has a rock-steady pause. The reason for this is simple: a slow scan digitiser takes a longer time to grab than the 25th of a second each single video image (or "frame") is displayed for during normal playback. The upshot is that the frame you want to grab must be frozen for long enough for the digitiser to fully capture it, and an ordinary pause won't be stable enough. The frame will start to "tear up" as it is grabbed, adding noise and other garbage as well as probably becoming quite distorted. The only solution is to use a VCR which has a good freeze-frame facility.

Of course this isn't such a problem if you are grabbing static images, such as photographs, via a camcorder or other video camera, because the image should remain



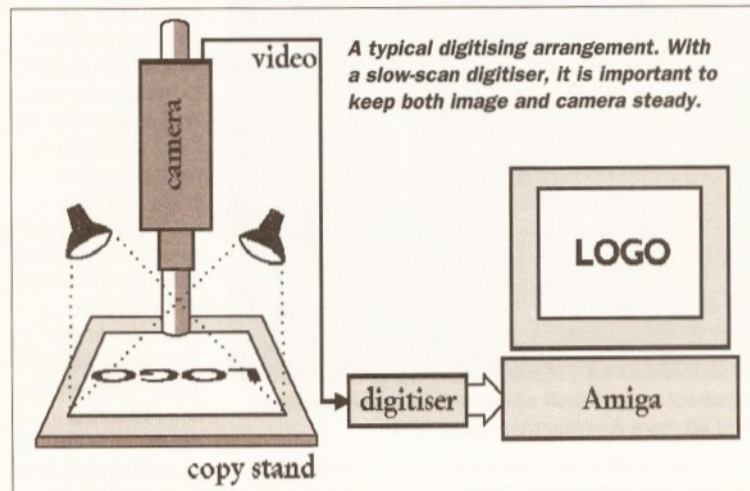
Here's what happens when an image is digitised.

of a morphing sequence, or for use in a graphics or desktop publishing program.

- Capturing a series of frames which could form the basis of an animation. The frames could either be used directly or be traced over in a paint program to provide a new set of images – a procedure known as Rotoscoping.
- Digitising a logo or graphic for conversion into a 3D object.

HOW DOES IT WORK?

All digitisers convert video into the digital data needed by the Amiga.



A typical digitising arrangement. With a slow-scan digitiser, it is important to keep both image and camera steady.

colour filters (for use with black and white video cameras).

You don't see DigiView advertised much nowadays (though you can find it for as little as £60) but if you want very cheap digitising check out your local second-hand computer shop and see if they have one. It's just a bit on the slow side and it doesn't support the new AGA modes, but a second-hand DigiView is still good quality could be a real bargain if you're skint.

still for the duration of the digitising process anyway – so long as both the camera and photo are securely mounted, and cats, small children and clumsy adults are kept well away while digitising is in progress.

DO THE ANIMATION

We've already mentioned the uses of animation for titling, but that's not the end of it as far as DTV applications are concerned.

Every cartoon you've seen on film

DIGITISING HINTS AND TIPS



- When using a camera ensure that sufficient evenly-distributed light is used to illuminate the subject. Low light usually results in grainy grabs.

Uneven lighting produces "hot spots", where the image seems to burn out or be too bright.

- Grab at the highest possible resolution to get the sharpest images. If you run out of memory (usually a low Chip memory problem) you can reduce either the resolution, the number of

colours being used or both – or alternatively, if you have no memory other than Chip RAM installed, add some Fast RAM, preferably at least 2Mb, because this will reduce the burden on the Chip RAM and enable you to grab larger, higher resolution images.

- If the camera has a white balance control make sure you use it. Before digitising, but with all the lighting turned on, put a clean piece of plain white paper under the camera so it fills the screen.

Perform the white balance and then shoot your images. The colours of your grab should now look more natural.

- Remember that a video camera or digitising program cannot really hope to improve the quality of the incoming image – the old "Garbage In, Garbage Out" axiom applies as much to digitising as it does to any other area of Amiga video and computing generally. If you want good grabs, you must start with clear images.

VIDEO FORMATS

As far as Amiga video is concerned there are four main types of signal – RGB, RF, Composite and YC. The Amiga's internal format is RGB (Red, Green and Blue), which refers to the basic building blocks used to build a TV picture out of light. RGB is also the purest signal, requiring no conversion or treatment to work with an RGB monitor – which is why RGB monitors have the best quality displays.

However, RGB television displays are rare, with a compromise being devised in order to squeeze the amount of data down to something a little more manageable. This explains why RF video is used for TV transmissions, and because of its efficiency (if not overall quality) it is used as computer output for some of the "games-oriented" Amigas such as the A600 and A1200. Of course this also helps to keep the price of an

Amiga system down by allowing the user to hook up to a standard TV set instead of having to buy an RGB monitor. RF TV signals carry both picture and sound. They are suitable for video recording and display, but they cannot be genlocked, vision-mixed or digitised.

Composite video is better quality because it consists of picture information only, so the compression isn't so extreme and, as a result, the quality loss when recording to videotape or decoding for TV display is substantially less. It is still the most popular video signal format in use for video editing, though most broadcasters and many video houses are now using more efficient (and hence better quality) signals such as YUV and RGB. Composite video can be used by VHS, Betamax, U-matic and other video systems.

The final signal we're concerned with is YC,

which offers better quality than composite because it is even less compressed, since the brightness (Y) and colour information (C) are kept separated. The result is that less decoding is required, hence less quality loss, hence a better picture. YC is used in S-VHS and Video8 systems.

To round off video signals I must mention interlacing, which is how a TV displays its image. By rapidly alternating one set of horizontal lines with a second set (termed "odd" and "even" fields) every 50th of a second, a whole "frame" is displayed. The reasons for this are too technical to go into here, but the crucial thing to Amiga videographers is that very thin lines, when displayed in interlaced modes on the Amiga, tend to flicker as they are caught between fields, as it were. Don't turn off the interlacing, just use slightly thicker lines.

or TV, every bit of animation in a commercial, all of it tricks us, for animation is an illusion based on fooling the eye and brain into thinking that a series of separate images are in continuous smooth motion – even though they aren't.

Traditional animators have known this for years, producing a separate image for every frame of film or TV, along with backgrounds and special effects – that's around 1,500 individual frames for every minute of animation, which is why companies like Disney use huge teams of artists to get the job done.

But the advent of affordable computer power has brought many changes. 3D realism is now possible and high-quality computer graphics are becoming more and more common in film and television, not just in high-cost flight simulators and military applications. Even so, such computer-generated animations are still based on the old illusion trick.

There are two main kinds of computer animation – 2D, such as that produced by paint software, and 3D, as generated by 3D modelling and rendering programs.

Over the years there have been a fair number of commercial programs designed to help 2D animators work

with the Amiga – including Gold Disk's *MovieSetter*, Disney's *Animation Studio* and Rombo's *Take 2*. All have their specialist uses, but none has such all-round features as *Deluxe Paint IV* (here we go again!). With *LightTable*, auto-move calculation, adjustable speed and a wide range of functions *DPaint IV* really is the most versatile paint and animation program on the

Amiga – bar none.

The other programs are rather more specialised. *Take 2* (now only £49) enables you to choreograph your pre-produced animation frames, layer background and foreground actions, add sound effects and play back animations. It is an ideal program for line tests, storyboarding and even professional productions, but it can only use pre-made frames, so you'll also need a paint program, digitiser or both.

Disney Animation Studio (£80) provided a comprehensive package (which is quite old now) but was let down both by its modular approach and non-standard formats, which is why it never really caught on.

MovieSetter (£80) is also rather long in the tooth, but it made animation quite easy once the basic characters and backgrounds had been designed. Both *MovieSetter* and *Disney* are worth looking for in the bargain bins, but I'm not sure whether either will work with the more recent Amigas.

3D animation production is even more demanding than 2D animation with *DPaint*, and generating ray-traced images with any degree of detail and lighting can be very time-consuming. But that's not to say impossible, because even the lowest Amiga can manage *something* with commercial software, such as *Imagine 2* or *Real 3D Classic*. Both of these offer serious features and quality, though you'll need a fairly

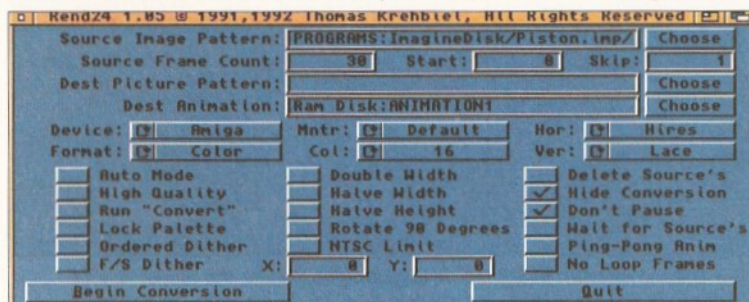
capable Amiga to get the best from either of them – and don't be surprised if the rendering times are huge

Animations are just images played back so fast you don't see the joins.

(like 15 to 20 hours per image!) in some cases. To be honest, 3D isn't really a DTV process which can be done on the cheap – at least not with any great success. *Real 3D Classic* could set you back perhaps £110 and *Imagine 2* about £80 if you shop around a little.

As far as PD animation software goes, there isn't any as such. But there are animation *utilities* –

with different colour palettes for each frame – which is exactly what *Imagine* produces. One solution is to buy a program like *Art Department Professional*, convert all the images so they use the same (locked) palette and Amiga-displayable screen format, and then animate them together. This is not only rather round-about and time-consuming, but also expensive. With a program like



Isn't it amazing how some of the dullest-looking programs have the most interesting uses? Rend24 can convert image formats and much more.

programs which don't directly produce animation frames but do enable you to take a series of images (such as those generated by a 3D program or digitiser) and concoct an Amiga-compatible animation from them – as well as specialised utilities which can be used to show or play back various forms of animations or images. Here are some of the best.

Rend24

If you use a 3D rendering program like *Imagine* to produce 24-bit images but don't have a 24-bit display card, it can be a little hard to see what you've created, especially when it comes to testing your animations. It's true that *Imagine* has no trouble displaying the files it generates, but its methods of animating those same files can leave you tearing your hair out if you wish to transfer them to a program like *DPaint*, which can't handle animations

Rend24 it becomes a breeze.

Rend24 (version 1.05 is the latest) can do many things – batch convert JPEG, GIF and IFF files to various other colour and greyscale IFF formats, scale images to new sizes, convert them to DCTV and HAM-E formats and turn a sequence of images (which don't even have to have the same formats or dimensions) into an ANIM5 animation – with or without locked palettes. It can even be told to wait until an image has been rendered before processing it – ideal if you are leaving a long 3D render overnight and want to see how the animation is shaping up in the morning. *Rend24* will gather the images as they are produced, process them and then save the resulting animation or image sequence ready for viewing. *Rend24* is shareware, with a recommended fee of US\$30. It requires AmigaDOS 1.3 minimum and at least 1Mb of Fast RAM when using 24-bit images.

Rend24 has an easy-to-use

interface where most of the work just involves pointing and clicking with the mouse. There are one or two caveats though – most importantly that when you're working with batches of images they should all be named **File001**, **File002**, etc – a naming convention that not all programs follow. One excellent way around this is to buy Alternative Image's *Reverser* program.

ViewTek

By the same author as *Rend24*, *ViewTek* (latest version 1.04) is primarily a viewer for IFF pictures and animations and JPEG and GIF images, though it also has a CLI option for saving *ViewTek*'s output as IFF images. It is very easy to use – simply choose an image from the requester or type the name in the CLI, and so on. Personally, I run it from *Directory Opus* to view JPEG and GIF files quickly. It isn't the best converter around (*Rend24* is much better) but it is fast. In other words it is "QUAD" (Quick And Dirty). It does, however, support AGA graphics modes wherever possible and is especially useful because it plays

smoothly, than it did when it was ANIM5. And guess what? *ViewTek* can play back ANIM7 (as well as ANIM5) animations. It also has extensive controls for changing the playback speed – which may be as fast as 60fps (frames per second) under the right circumstances. Since *ViewTek* is freeware, what have you got to lose? It does require AmigaDOS 2.04 or greater; and note that ANIM7 isn't an "official" Commodore-approved format – they favour ANIM8 – not that that should put you off.

View

View is a viewer for most ILBM/IFF file types and the latest release (v3.6) includes support for both AGA graphics and ASDG's ANIM8 animation format. It can also play back ANIM5 and ANIM6 type animations, as well as display SHAM and DCTV images. It is very easy to use, has speed controls for animations and is very fast – and I highly recommend it. Its previous version served me faithfully for well over a year.

Although outgunned by some of



***View* is an invaluable utility for viewing images (hence the name) in just about any common format and playing animations – and it's freeware!**

back animations.

Bundled with *ViewTek* is a program called *MakeAnim7*, which converts animations in the earlier ANIM5 format to ANIM7 format. Simply select an ANIM5 animation and sit back as *MakeAnim7* rapidly does the conversion. The result – an animation which plays back noticeably faster, and more

ViewTek's features, *View* is a program you should definitely have if you use animations or need an easy-to-use picture viewer. *View* is freeware and requires AmigaDOS 1.2 or greater.

MainActor

This is a very recent, and rather powerful, program (latest version

AMIGA SCREEN FORMATS

Over the years the number of different Amiga screen formats has been slowly enhanced. We still have the original innovator – HAM (4,096 colours) – and the basic modes from 2 to 64 (extra-half-brite) colours, but with the advent of AGA Amigas you can now include 256-colour and HAM-8 (262,000 colours) as well. If you have a display card such as DCTV, OpalVision or IV24 then the number of colours available is considerably more – from several millions right up to "true colour" 24-bit with 16.7 million available colours.

Using these colours, on the other hand, can be a headache if your Amiga is short-staffed in the Chip RAM department, since this is where decisions are taken about how large a screen can be made available and how many colours it can use. Large screens such as the overscan ones required for video need a lot of Chip memory, so you might find restrictions on the number of colours available for use. In any case, pre-AGA machines cannot use more than 16 colours in hi-res interlace modes, and overscan can often reduce this to eight on severely under-endowed Amigas. The size of an image also affects the speed at which an animation can play back: lo-res

animations, or smaller sized images, play back faster than hi-res ones. Animations with more colours are also generally slower. Even so, the Amiga is still one of the best-value video production tools available.

Video work usually requires overscan screens – that is, screens which overlap beyond the edges of the visible display. This ensures that any movements which take place from off-screen to on-screen do so smoothly and don't appear to "jump" on-screen in a disturbing way. Text will scroll on smoothly from the very bottom of the screen, rather than part way up, or crawl in correctly from the side.

Solutions to the Chip RAM bottleneck include adding more Chip RAM (logically enough, though this can be both awkward and expensive), adding more Fast RAM or choosing to use fewer colours. You should also make sure that any unnecessary tasks are closed down, your Workbench screen is in the minimum number of colours and at its smallest size, and you don't have a backdrop in use. If you can't afford to add more memory, consider using lower-resolution screens. Although your text and graphics will inevitably look chunkier, you'll at least avoid breaking the bank.

1.1) which makes short work of compiling animations. It can load and save IFF pictures and ANIM5, ANIM7_16, ANIM7_32, ANIM8_16 and ANIM8_32 animations formats, as well as being able to load PC-style PCX format files. More formats (including JPEG) are being planned for a future release. Also included is a player program which can be used to play back any animations produced with *MainActor*, so long as your Amiga can handle the screen formats correctly.

The first version (1.0) was fully

working (though with fewer features) but this version has its Save functions disabled. Register (for \$50) and you'll receive a "key" to fully activate the entire program. I believe *MainActor* needs at least AmigaDOS 2, though the docs make no mention of this.

Reverser

Finally, a program which I can't praise enough (no, not *Deluxe Paint IV*) – Alternative Image's *Reverser*. Cheaper than some shareware, this

continued on page 24

GETTING ALIGNED

Setting up your video monitor correctly is very important, because it is your "eyes" as far as video and graphics are concerned. You should always try to ensure that your monitor is kept set up in the same way – with the colour, brightness and contrast settings all correct – so that you'll know if anything is wrong with your video system and so that any colour corrections you might make will be fully appropriate.

The best way to set up a TV or monitor is to use a standard Colour Bar screen. Colour bars should always be included right at the start of your video tapes so that the monitor can be adjusted if necessary, but you can generate colour bars on your Amiga to use as well. Here's how: You'll find that these Colour Bars are much closer



Make your own colour calibration bars using a paint program and the RGB values shown.

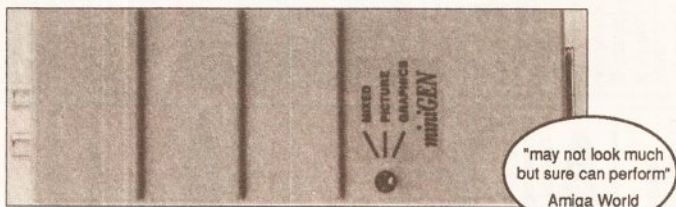
to the real thing than most of the so-called "Test Patterns" supplied with some titling and video programs, since these are mainly sloppy approximations of what their designers believe to be correct. All the colours here have been carefully checked against electronically-generated bars and are as close as the Amiga's RGB palette system will allow. Note that these bars could be improved on with AGA and 24-bit machines, but are so close that the differences won't be noticeable for our cheap video purposes.

Use an overscan screen and divide it into eight equally-wide vertical strips of colour in the order shown. Use the bars to adjust your monitor to ensure that black and white really are black and white and the colours are of the correct hue.

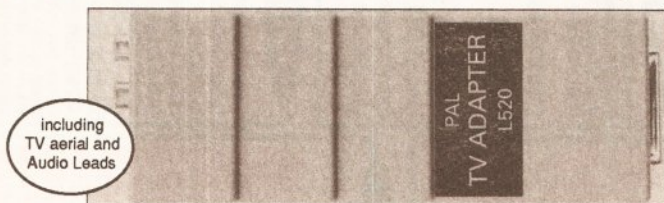
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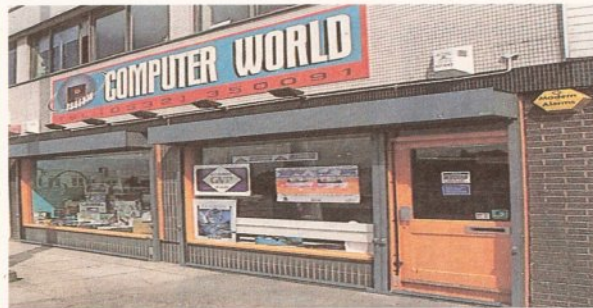
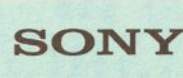
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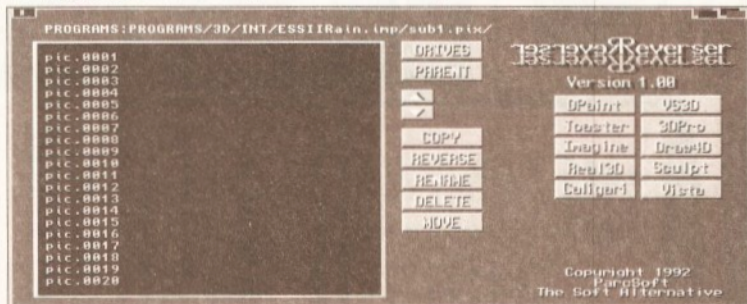
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any products in the current
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continued from page 20

£10 program is a real life-saver for the Amiga animator faced with the common but thorny problem of filenames. If you take a typical case which might involve using *Rend 24* to compile a series of 100 animation frames produced by *Real3D Classic*, then you'll soon see what I mean. *Real3D* uses a filename of **File0**, **File1** and so on as it produces its frames, but *Rend24* requires its incoming files to follow the *Deluxe Paint* naming convention – **File001**, **File002** etc. Now you *could* rename every single file by hand using the Shell, or you could use *Reverser* and have the job finished in seconds; the choice is yours. Oh yes, it can also rename as well as renumber and it can deal with filename extensions produced by most of the top paint and animation software. Don't leave home without it.

PASTURES NEW

Cheap titling and digitising have been available on the Amiga for

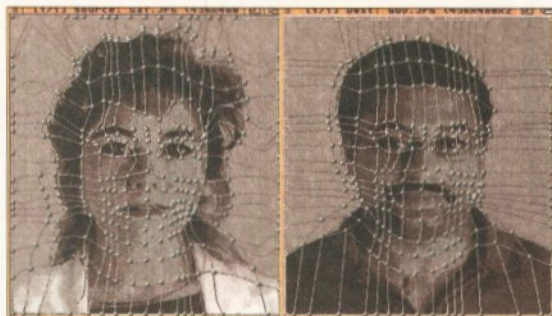


Suffering from the heartache of filename chaos? What you need is Reverser.

some time now, but it is only recently that some of the more high-powered applications, like image-processing and morphing, have begun to become available "on the cheap". But what is arriving is certainly worth a look, and when I say cheap, this time I mean just that – there is both a PD morphing program and a PD image processor. What's more, GVP's dedicated commercial morphing program *Cinemorph* has recently been reduced to only £24.95, so there's a bit more choice available if you really want more.

Morphing

Let's start with the morphing programs, since morphing is the



Morphing is a powerful method for transforming one image seamlessly into another. CineMorph (above)...

latest graphics fad to hit film and TV and it's now available for free, in the shape of TopicSave Limited's PD program *TSMorph*.

Morphing, as you should know by now, involves smoothly blending and warping one image into another – so seamlessly that you shouldn't be able to see the joins. Morph a walrus into a carpenter, or a ship into a shore – or copy blockbuster movie effects such as those seen in *Terminator 2*. Whatever, if your Amiga is reasonably powerful then

you can have a lot of fun with morphing.

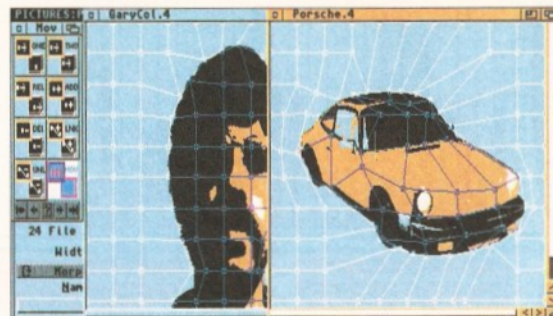
The principle is straightforward – take two different images, define a series of points on their surfaces and then translate the first set of points to the position of the second set, stretching the first image into the shape of the second. At the same time perform a cross-fade between the two images and the illusion is complete. However, unless you already have an Amiga with 24-bit graphics, lots of memory, a big hard drive and a fast processor you won't be able to get photographic quality from your computer. Morphing really is very hardware-intensive if you want to achieve great results,

but it is still possible to work in lower resolutions and fewer colours and get acceptable results.

TSMorph and *CineMorph* work in a very similar way, enabling you to manipulate lower-quality substitutes on screen instead of the original images (to save memory) and set up the points for two separate images or a sequence of images to make an animated morph. Both also let you warp just one image over time.

Once the morphing parameters are applied it's then a case of sitting back and waiting while your Amiga processes all the frames that make up the finished sequence – which could take some time on a normal 68000-equipped Amiga. You'll also need plenty of storage space – either RAM or hard-drive – so while morphing on an Amiga is actually very cheap compared to using full-spec broadcast equipment, it is still relatively expensive and time-consuming. For *TSMorph* some ARexx skills will also come in handy.

The latest version of *TSMorph* has only recently been released and I haven't had much time to test it, but since it's free what have you got to lose? But be warned, you'll need at least AmigaDOS 2.04 to run it, and to use different image formats you'll need access to *WASP* (a PD image converter), or Centaur's *Opal.library*. *CineMorph* is an adequate commercial morpher and its recent price drop will be welcomed by those who thought its initial price of almost £100 rather too high, considering its shortcomings. You'll find more details about it in the review in *Amiga Shopper* 23. (If you missed that, turn to the back issues service on page 108.)



... is a commercial program which has recently tumbled in price, or you can try TSMorph, which is freeware.

Image-processing

There are a couple of PD image processors – *ImageLab* and *Digital Illusions*.

ImageLab is getting quite old now (it hails from 1991) and isn't the fastest program around, but it has programmable convolutions and quite a lot of other interesting features, so it's still worth searching out. Shareware fee is \$25.

But I'm afraid *ImageLab* looks pale beside *Digital Illusions*, a little gem which turned up on Cover Disk 45 of our sister magazine *Amiga Format*. It's an impressive image-processing program which gives a real introduction to manipulating your images for very little outlay. What's more, it's fast, easy to use and offers some effects unavailable on even the most expensive commercial packages.

Among *Digital Illusions*' better effects are "starburst" (which adds starburst flares to the bright spots of an image), the now-ubiquitous emboss and negative, a whole bunch of wave distortions, stars, spirals, motion blur and more. And even better, each can be animated over time, combined with other effects and then output as single frames for animating. It's surprisingly fast too, for a PD program.

Current inputs include 24-bit (all operations are done internally in 24-bit) up to 320 x 256 – though I think this will be improved – and there is a range of standard IFF outputs, including 24-bit, HAM, hi-res, lo-res and combinations thereof.

Well worth a look, and a prime example of what AMOS programming can do in the right hands. Even better things are promised for version 2, which will only be available to registered users. *Digital Illusions* is shareware (US\$15) and requires a minimum of 1Mb of memory. Granted it's not up to the standard of *ADPro* or *ImageFX*, for instance, but it is a darn site cheaper!

SPECIAL EFFECTS

Where would DTV be without special effects? The obvious solution is to use a vision mixer capable of performing such effects, but such boxes of tricks aren't cheap. Basic wipe effects can be simulated with



The simple interface of Digital Illusions leads to...



... some interesting results – this one a starburst effect.

WHERE TO GET IT

Here are some contacts for products mentioned, but note that they may also be available from other sources.

Alternative Image ☎ 0533 440041
BAS and Scroller 2, Real 3D
Classic, Reverser.

Lola Electronics ☎ 0858 880182
MiniGen Genlock and L520
modulator.

Marcam Ltd ☎ 0604 790466
Rendale 8802FMC genlock.

Micro-PACE UK Ltd ☎ 0753 551888
Adorage.

Silica Systems ☎ 081 309 1111
GVP G-Lock and Cinemorph, Disney

Animation Studio, MovieSetter

Visual Products ☎ 0494 890601
Rocgen Plus genlock.

Rombo Productions ☎ 0506
466601
Take-2 (£49.95), Vidi-Amiga 12
AGA, Vidi-Amiga 12 RT, Megamix
Master.

• Check last issue's Software
Product Locator for other packages
that may be available in the field
you're interested in. (*Amiga
Shopper* 29 is still available if you
missed it – see page 108.) Turn to
page 109 for this month's PD
Software Locator, and watch for an
updated Hardware Product Locator
next issue.

or *What Video*, and compare prices and features with what you require. There are so many camcorders to choose from, with so many features, that the ones I choose (and I'm certainly no expert when it comes to camcorders) probably wouldn't be the ones you'd choose. Having said that, I find from a quick flick through one of the said magazines that it recommends the Samsung VP-E807 (£549) as a best buy for Video8 format, Panasonic's NV-S7 (£999) for S-VHS-C format (small tapes) and the Panasonic NV-MS4 for full-sized S-VHS format. VHS models are being superseded by these formats, and at prices comparable to the better

formats you may as well give them a miss. I have seen VHS camcorders advertised for as little as £299, but just because they are cheap doesn't mean they are good! Try before you buy is the safest advice here.

Again, the more you spend the more you can expect, but you can get perfectly adequate results for minimal outlay. Remember, features that today's Amiga users now take for granted were real breakthroughs only five years ago, and the Amiga is sure to continue knocking down the cost and power barriers and opening up new worlds of creation for impoverished animators and video makers on a shoestring. **AS**

(but not HAM or AGA) and break it up and reassemble it into a range of new effects, flying the pieces around before assembling the image again. By doing such an operation over time and genlocking the image over video, you can make a logo "peel" on to the screen, or shatter off it. In fact, a whole range of interesting possibilities is available.

Adorage doesn't produce these effects in real time though – the files first have to be generated as an animation before being played back to see the full-motion effect – and a hard drive, 3Mb of RAM (or more) and an accelerator will prove to be a great help, because *Adorage* needs a lot of processing to calculate its effects and the resulting files can be quite large. The advantage is that the effects are very smooth and some do look very impressive. For a full review of *Adorage*, see *Amiga Shopper* 24 (also still available from our back issues service, page 108).

Another program worth searching out from the bargain bins is the long-discontinued *AniMagic* by Aegis, which did similar things to *Adorage* but with more effects (though with less-smooth playback).

CAMCORDERS

Here's where cheap really does become a relative term. Is £700 for a good camcorder "cheap"? Obviously the answer is yes if it does what you need for less than you would pay for an equivalent product. Follow my advice – take a look through one of the specialist video magazines, such as *Camcorder User*

JARGON BUSTING

ANIM – A method of storing a sequence of consecutive images. Current formats include ANIM5 and ANIM8.

ANTI-ALIASING – Smoothing the jagged edges caused by the "stepping" of pixels in computer graphics by using intermediate colours between adjacent pixels.

CHROMINANCE – The "colour" part of a colour video signal.

COMPOSITE VIDEO – A video signal containing combined chrominance and luminance information.

DIGITISING – Conversion of analogue data to a digital form which a computer can understand. Could be sounds or video pictures, for example.

EDIT CONTROLLER – Programmable hardware/software which communicates with several video decks simultaneously in order to

perform editing functions with them.

GENLOCK – Common term for hardware that enables computer graphics to be overlaid onto video.

GIF – A 256-colour graphics format used (mainly) on PCs.

JPEG – An image compression technique which can significantly reduce the storage size of 24-bit (and other) graphics while sacrificing little in the way of picture quality.

LIGHT-TABLE – *Deluxe Paint*'s term for "onion-skinning", a method used by traditional animators to let them see back and forth through their animation sequences to test movement between individual frames or cels. Analogous to placing one image on tracing paper on top of the previous image in the sequence so that they can be compared to each other.

LUMINANCE – The "brightness"

portion of a video signal. Produces a monochrome (black and white) picture on its own.

MODULATOR – A device for converting RGB or video signals into RF signals usable by the aerial socket of a TV or VCR.

MONITOR – A dedicated screen for displaying computer or video signals. Some monitors may have TV receivers built-in.

NTSC – The TV system prevalent in America and Japan, with 525 horizontal display lines running at 30 frames per second.

OVERSCAN – The size of an image needed to extend past the physical edges of a video display.

PAL – The TV system in use in the UK and much of Europe, with 625 horizontal display lines running at 25 frames per second. PAL and NTSC are not directly compatible.

PIXEL – Short for Picture Element, the smallest unit of display on a computer screen.

RGB – Red, Green, Blue: the component colours used to produce a TV image or computer picture – based on the colours of light which produce all colours of the spectrum when mixed in various proportions.

TIME BASE CORRECTOR – Hardware designed to correct any inaccuracies in the timing information of a video signal. Needed for successful vision mixing to ensure that all inputs are in sync.

VISION MIXER – Hardware for selecting between, or mixing, several incoming video feeds.

YC VIDEO – A "split" video signal format used in S-VHS and Video8 to provide better image quality by keeping the luminance (Y) and chrominance (C) components of the signal separated.

technical hotline
0234 841882

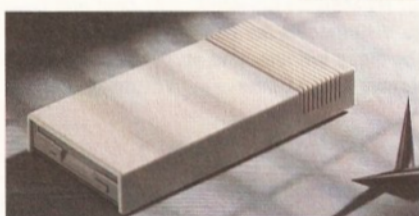
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EPSON GT-8000

Power is official distributor for Epson
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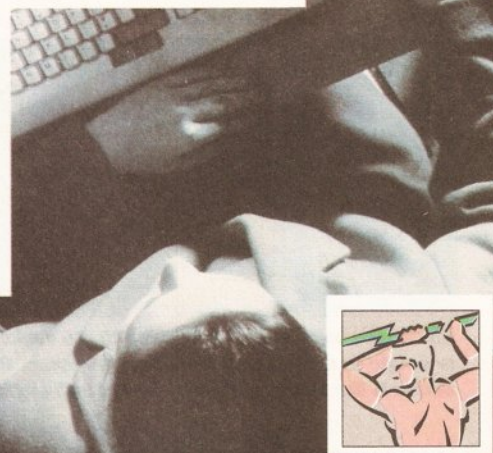
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Letter imperfect

Doesn't it want to make you scream? No software is ever perfect, so you use this DTP program for some jobs, that DTP program for other jobs, and one or more word processors for more simple stuff. Nothing exceptional about this, except that despite the Amiga having a so-called standard font format – namely Agfa Compugraphic – almost every word processor or DTP program either uses its own font system or handles Compugraphic fonts in a non-Amiga way.

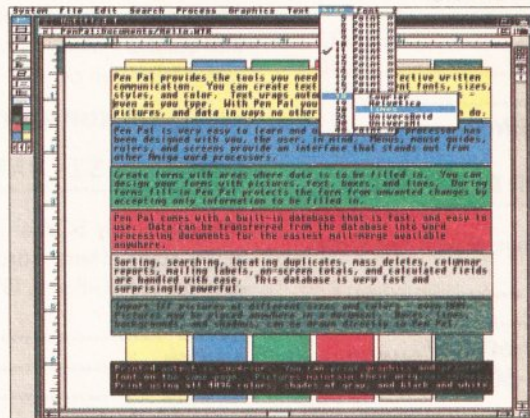
The excuses for this mass mutiny are many and varied and quite (yawn) boring to listen to, and at the end of the cliché they all boil down to software developers insisting they can do it faster and more efficiently than can the Amiga. While this may very well be true, it leaves us, the people who have to use the software, in the awkward position of having stacks of floppies or megabytes of our hard disks gobbled up by duplicate fonts directories.

In this series of two articles we'll be looking at the different types of fonts used by Amiga word processing and DTP software, and the way fonts are used by those programs. We'll also be looking at conversion utilities and the reasons why they don't always work, and some specific problems that particular programs have with particular types of fonts.

ONCE UPON A TIME...

The story starts with bitmapped fonts, which are more useful than they at first appear, but only when you're using certain types of software and printers. If the word "bitmapped" confuses you, think of these as screen fonts if you like, a term which describes their use more accurately. Some word processors refer to them as "Amiga fonts". The important fact to remember is that bitmapped fonts were not designed to be printed on printers, they were designed to be

Having problems with fonts? Jeff Walker punches his way out of a wet paper bag full of typefaces.



Some word processors are all mouth and no trousers – their document displays may look great on screen, but because they use only bitmapped fonts for WYSIWYG work the printed output is simply atrocious.

Bitmapped fonts are contained in directories in your **FONTS:** directory, and each directory has an associated "fontname.font" file. Inside the directories in **FONTS:** are files whose names are numbers. These numbers relate to the size of the characters in the font, measured in points, the standard measurement system for fonts – there are about 72 points to the inch. The "fontname.font" files associated with the directories of the same name are used by the Amiga to quickly find out what sizes are in that font's directory. If you add a size to a font's directory and forget to run the Workbench *FixFonts* program, the "fontname.font" file, and therefore the Amiga, will not know about the new size.

Because they have been designed for display use, bitmapped fonts are mapped to the screen's resolution, which is about 60 to 75 pixels or "dots" per inch, depending on what type of monitor you have. It doesn't matter what the highest resolution of your printer is,

bitmapped fonts will print at the screen's resolution, resulting in ugly jagged curves and diagonals, particularly at larger point sizes.

Many's the *Pen Pal* user who has written to *Amiga Shopper* asking how to get better printed output from that program using bitmapped fonts. Alas, you can't.

Wordworth version 1 and *KindWords* 3 use a trick to improve the output resolution of bitmapped fonts. Instead of printing with the size of font you have on the screen, these word processors use a font twice or four times that size, then scale each dot in each character by 50% or 25%

to bring the size of the characters back to the size you have on screen. It takes lots of memory and quite a long time, but this technique does improve the appearance of bitmapped font output to something approaching the quality of the scalable fonts used by more sophisticated packages.

It would appear then that bitmapped fonts are fairly useless if you want a WYSIWYG display and quality results, but this is not the case.

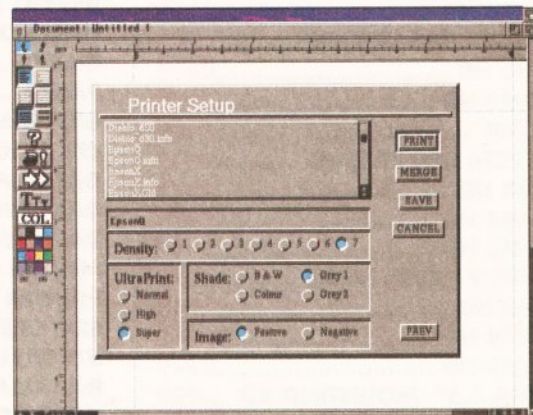
Wordworth 2, for example, has a system whereby it uses bitmapped fonts on-screen, but at print time uses fonts of the same name that are inside the particular printer you are using. The problem here is that most printers don't have that many fonts in them, and they are generally in a few, small, fixed sizes, so design-wise you are fairly restricted.

But if the printer contains scalable fonts you can have the best of both worlds – fast-appearing (but jaggy) bitmapped fonts on the screen, and fast-appearing (but wonderfully smooth) scalable fonts

on paper at printout time.

PostScript printers come with a number of scalable fonts, usually 35 of them. On top of this you can download to the printer as many software scalable fonts as the memory inside the printer will allow. With all the fonts you are going to need present in the printer, printable at any size you like, there is no need for the word processing or DTP software to do anything more than say to the printer "Change to this font at this size" whenever it comes across a font or size change.

Word processors that support PostScript output usually come with what the software or manual calls PostScript fonts. But they are not PostScript fonts, they are merely specially-named Amiga bitmapped fonts that the software can recognise and so instruct the PostScript printer to change fonts or sizes. The actual PostScript fonts are inside the printer, not on your screen.

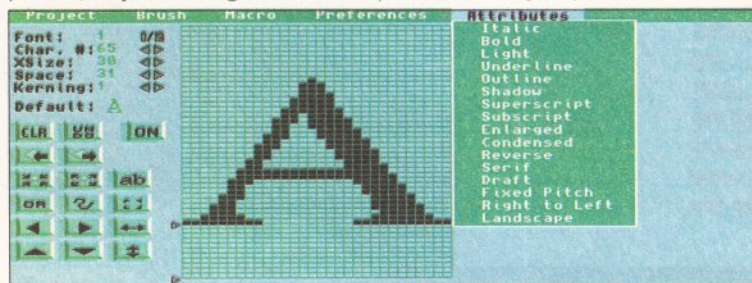


KindWords 3's UltraPrint facility enables it to enhance the output resolution of bitmapped fonts, but at a considerable cost of memory and printout time.

Professional Page doesn't come with special PostScript screen fonts. When you output to PostScript from *ProPage* it looks at the names of the fonts you've used on the screen, whether they be bitmapped or scalable, and simply issues a "Change to that font and point size" instruction. If the PostScript printer you're using doesn't contain a font of that exact name, either in-built or in its download buffer, it will substitute a default font, usually Courier.

TIME AND MEMORY SAVERS

The great advantage of using Amiga bitmapped fonts is that they appear on the screen almost instantly



Bitmapped fonts are of limited use to the desktop publisher, but if you need to create or alter screen fonts for any reason, Cloanto's Personal Fonts Maker is the bitmapped equivalent of Soft-Logik's TypeSmith font utility.

because the bitmapped information in the font file is simply copied straight on to the screen, which is also bitmapped.

Scalable fonts, however, are not held in a bitmapped file format. When you press a key to display a character in a scalable font, the software has to load the large scalable font file into memory, calculate a bitmap of the size you require from the scalable information in the file, then copy that bitmap to the screen. This bitmap is just for display purposes, not for printing. How long it takes to create the bitmap for any given character depends on the complexity and size of the character; on the standard Amiga 500 and 600 it can take so long that even a slow typist will find the screen display way behind the fingers.

The other advantage of bitmapped fonts is that only one lot of font information is in memory; with scalable fonts both the scalable information and the bitmapped information have to be in memory, so more memory is used. Well, strictly speaking only the scalable information *has* to be in memory – the bitmaps can be created on the fly as you type – but because you are likely to be typing characters more than once, software that uses scalable fonts tends to hold or “cache” the character bitmaps in memory so it doesn’t have to keep re-calculating them. You gain speed of use at the cost of memory.

What you lose with bitmapped fonts – unless the software you are using directly supports PostScript or specific in-built printer fonts, or employs special bitmap scaling techniques – is printer output resolution.

Before we move on to scalable fonts, there’s one other type of bitmapped font that I should mention, the Colorfont. Standard Amiga bitmapped fonts are a single bitplane big – two colours in other words, just like a single bitplane ILBM picture. Colorfonts contain four

bitplanes, so they can be displayed in up to 16 colours, just like a four-bitplane ILBM picture. And just as a 16-colour picture consumes more memory than a two-colour picture, so Colorfonts consume more memory than standard Amiga bitmapped fonts.

Although the introduction of three more bitplanes makes their appearance more spectacular, Colorfonts remain bitmapped fonts and will print with jagged curves and diagonals. They were designed primarily for use on the screen in art, multimedia and presentation type programs and have no real place in word processing and desktop publishing. In fact the only Amiga word processor that supports them is *Wordworth 2*.

ANY SIZE YOU LIKE

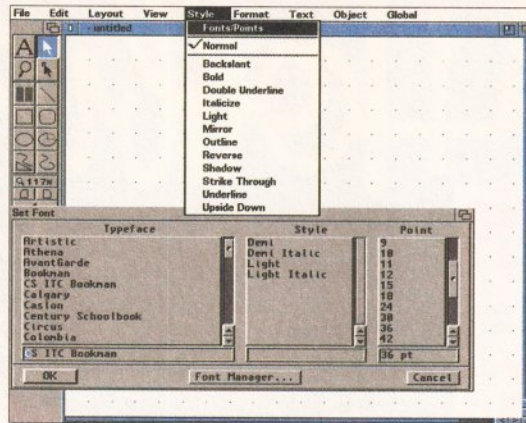
The best known scalable font format is PostScript. There are two basic types of PostScript font, Type 1 and Type 3. Of these, Type 1 is by far the most widely supported.

PostScript Type 1 fonts are often mistakenly or absent-mindedly called Adobe Type 1 fonts. Adobe Systems are the company that invented PostScript, and Adobe certainly produce many Type 1 fonts, all of which are PostScript Type 1 fonts, but called Adobe Type 1 fonts because Adobe are the company that produces them. Many other companies and people produce PostScript Type 1 fonts, and since these are not produced by Adobe they are not Adobe Type 1 fonts.

You might also see these referred to as ATM fonts, ATM standing for *Adobe Type Manager*, a popular (non-Amiga) font

management and display program now widely used, for example, on the Apple Mac. Most often they are referred to as just Type 1 fonts. If a font is labelled just as a “PostScript” font, it is normally a Type 3 font and of very limited use to the Amiga owner.

The Macintosh and the PC have slightly different file formats for Type 1 fonts. All the Amiga



PageStream's font management system enables you to store fonts neatly on your hard drive or separate floppies, then add the paths to those fonts to its system. The Set Font requester then presents you with a single list of fonts. You never have to worry about which font is in what format or where it's hiding.

programs that support Type 1 fonts support the PC file format. There are a number of conversion utilities available that can convert Mac Type 1 into PC Type 1 – *PageStream* actually comes with some – but considering that almost all Mac Type 1 fonts are readily available in PC Type 1 format, these utilities are almost redundant.

The Soft-Logik desktop publishing packages – *PageStream*, *Art Expression* and *TypeSmith* – all directly support Type 1 fonts. By direct support I mean that these

fonts do not need to be converted into another font format before they can be used. *Final Copy II* also directly supports Type 1 fonts.

Type 1 fonts are split into two files, the PFB file (Printer Font Binary) and the AFM file (Adobe Font Metric). The PFB file contains the complete PostScript description of all the characters in the font, including the dimensions of every character; the AFM file contains all the character spacing and kerning pairs information.

Why split this information into two separate files? Some programs don't require both files. *Art Expression*, for example, is a drawing program and doesn't have any use for character spacing and kerning, so it uses just the PFB file. *Final Copy II* has no kerning feature, so it too has no use for the AFM file and uses just the PFB file. *TypeSmith*, being a font design program, is happy with just the PFB file but will import the AFM file if you tell it to. *PageStream*,

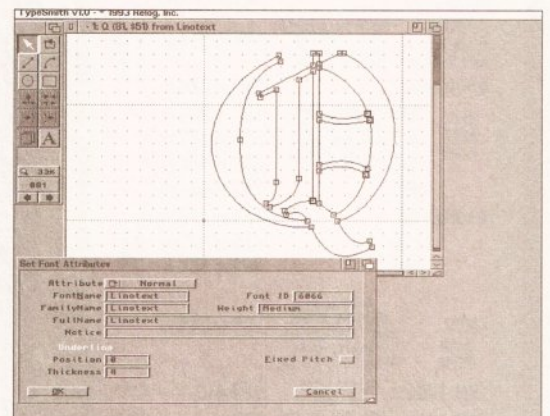
which needs to give the professional desktop publisher control over professional things like kerning pairs, requires both the PFB and the AFM file for each Type 1 font.

ANYWHERE YOU LIKE

Despite the fact that the above four programs use Type 1 fonts differently, and despite the fact that each program upon installation will set up and use its own fonts directory, there's no reason at all to have duplicate fonts directories for them.

PageStream has a Font Manager feature whereby you point the program at all your font directories, and many *PageStream* users like to take advantage of this feature and sort or classify their fonts into lots of alphabetical or style-of-font directories. *Art Expression* uses the same system, so you can point its Font Manager to exactly the same directories as those used by *PageStream*. *Final Copy II* and *TypeSmith* merely put up a file requester when importing a Type 1, which of course enables you to load the font files from anywhere you like.

None of these programs expects or requires the PFB file to actually have a “.PFB” suffix to the filename. If it feels more natural to you to have Type 1 filenames without the “.PFB” on the end, feel free to have a

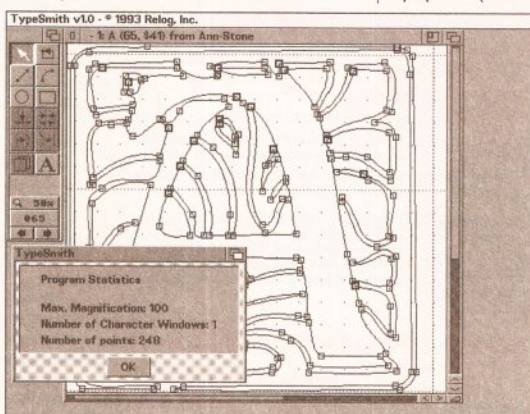


The font's filename is not necessarily the same as the actual FontName stored within the file. If you find that *TypeSmith* or any other program ends up doing strange things with Type 1 fonts, check that the PFB and AFM files for that font really belong to each other. Often, especially in the case of cheap PD or shareware fonts, the two files have actually come from different sources and are at loggerheads with each other.

massive renaming session.

PageStream doesn't even require the AFM file to have a “.AFM” suffix. For example you could rename all the “fontname.AFM” files to “fontname.metrics” if you feel that this suffix makes more sense to you. *PageStream's* Font Manager is really very clever. You could even rename the PFB and AFM files for a font as very different filenames – “My_Scraggy_Font” and “The_Metrics_For_Scraggy” for

continued on page 32



Some Type 1 fonts are far too complex to be converted into Compugraphic format. I'll be going into detail about this next month, so reserve your copy now...

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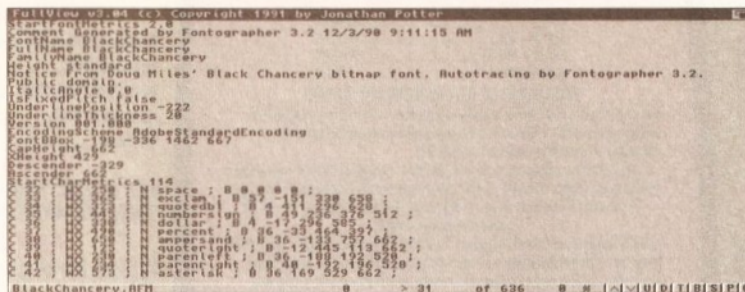
continued from page 29

example – and it would still be able to link the two files as being the PFB and AFM for one font. It achieves this quite impressive feat of intelligence by reading the font name from the contents of the two files rather than taking it from the filenames, and, provided you hit the **Save Default** button, it remembers the link between these files in its “PSFonts/FONTLISTv2” file.

Because of the way its Font Manager works, something to watch out for in *PageStream* is Type 1 fonts that have different filenames but the same font name – the filename is what the file is called by the user (you), the font name is the name the original designer gave to the font, the details of which are held within the PFB and AFM files.

The best place to look for the real font name (as opposed to the arbitrary filename) is in the AFM file, which will be a plain ASCII text file that can be viewed with any text viewer or loaded into any text editor. The font name is toward the top of the file, more often than not the third line in the file. To avoid confusion it makes sense to have filenames that are the same as the font names. If *PageStream's* Font Manager comes across two fonts with different filenames but the same font names, only one of the fonts will be available to you in the **Set Font** requester, and *PageStream* may become confused, causing very strange things to happen.

If you are outputting to a PostScript printer with *PageStream*, remember that it automatically downloads to the printer any Type 1 fonts you have used. If you have used many Type 1 fonts, the chances are that your printer will quickly run out of memory, which usually results in it resetting itself, so make sure you use the **Auto-**



The ATM file for a type 1 font is a plain ASCII text file. You can discover the font's real name, as opposed to its filename, simply by opening the file in a text viewer or editor and looking at the `FontName` instruction near the top of the file (but it's not a good idea to change anything!). Note also the `Encoding Scheme`. If this isn't Adobe Standard Encoding, Gold Disk's `FontManager` program may have trouble converting the font to Compugraphic format.

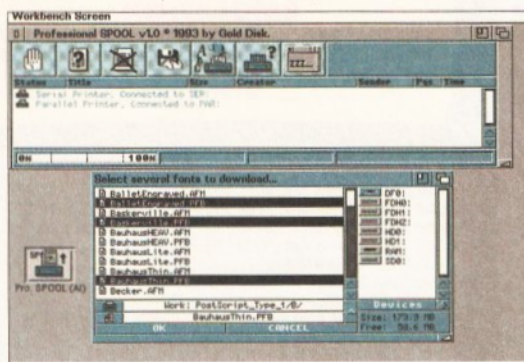
unload feature (page 6.1.1 of the *PageStream* manual) in the **Configure Printer** requester.

When creating PostScript files for transportation to a bureau or firm of printers there is no way to prevent *PageStream* downloading to the file any Type 1 font you have used in your document. Normally this isn't a problem, but if you happen to be using Type 1 fonts on the screen for any of the 35 classic faces that almost every PostScript device has built-in, these Type 1 "soft" fonts will be downloaded to the PostScript file, resulting in much bigger files and longer, and therefore more expensive, print times. Since the PostScript device doing the printing already has these fonts inside it, a lot of time any money is being wasted.

The lesson here is not to use Type 1 fonts on-screen in *PageStream* for displaying any typeface that is already built into the

PostScript device that will be doing the printing. Instead use Compugraphic or Soft-Logik outline fonts. *PageStream* will then simply put a "change to fontname" instruction in the PostScript file, and the font of that name in the PostScript device will be used.

But beware of using Compugraphic fonts on the screen that are not in *PageStream's* database of known fonts, the list in the "PSFonts/FONTEQUIVv2" file. If,



The ProSpool utility that comes with ProPage 4 enables you to download to the PostScript device lots of PostScript "soft" fonts at once, saving you the bother of having to include them in the PostScript file output by ProPage. Note that downloading fonts will consume printer memory – you'll need at least 2Mb of printer memory to hold two or three downloaded fonts in memory as well as the document itself.

for example, you use a Compugraphic font called "Scrawny" in your document and then output to PostScript, because *PageStream* knows of no equivalent PostScript font of that name, it will use Helvetica instead. In this situation you would need to get hold of the "Scrawny" font in Type 1 format, or buy *TypeSmith* and convert it yourself of course.

WATCH FOR THE KERNING

Talking of converting fonts, we'll finish up this month with a bit about that other *FontManager*, the one that comes with *ProPage* and *ProDraw*. This utility converts Type 1 fonts into Compugraphic fonts and is notorious for freezing half way through a conversion or not converting the font properly.

The reasons for *FontManager's* failures are almost entirely to do with Type 1 fonts that are either badly or "custom" encoded, or because the AFM file doesn't properly belong to the PFB file, or because it is too complicated to be converted to the (mathematically) much simpler Compugraphic format. We're rapidly running out of space here, so we'll discuss this in full next month.

What I want to tell you about *FontManager* this month is that if the AFM file of the Type 1 font being converted has kerning pairs set-up, then *FontManager* reads and transfers this information into the "**fontname.metric**" file it writes out for use with the Compugraphic font in *ProPage*. If you view an AFM file and look towards the bottom of the file, you'll see a line that says "**EndKernPairs**". If directly above that line there is a "**StartKernPairs**" instruction, then the AFM file contains no kerning information. Kerning information in AFM files is easy to spot – if a line has got "KPX" at the beginning of it, it's kerning information.

TypeSmith users should note that when it creates Compugraphic files for use with *ProPage*, it doesn't save the kerning information in the **"fontname.metric"** file, so it would be better to save the Type 1 PFB and AFM files from *TypeSmith* and use Gold Disk's *FontManager* to convert it to Compugraphic.

Next month's article will be almost exclusively about Compugraphic fonts. We'll be looking at downloading to PostScript in *ProPage*; the pros and cons of using them with *PageStream*; why *PageSetter II* doesn't work with some of them; and how to get Amiga programs like *Wordworth*, *ProDraw*, *ProPage*, *PageSetter* and *PageStream* (and as many more as I can think of) to share a single Compugraphic font directory. **AS**

JARGON BUSTING

Bitmapmed fonts – These are fonts stored as little “pictures” of each character at the most commonly used sizes. The problem is that if you use these fonts at other sizes, the bitmapmed pictures are simply drawn at a larger size, resulting in jagged curves and diagonals – adequate for screen display (which is what bitmapmed fonts are primarily designed for), but poor for printed output.

Font – The DTP term for a typeface or particular style of text. This font is Franklin Gothic; this is Times; and this is Courier.

Kerning – Altering the spacing between pairs of letters. For example, in the word AVAILABLE the first three letters, because of their shapes, need to be “squeezed up” more than the last three or you get an appearance of too much white space between them. Professional-quality PostScript Type 1 fonts should have kerning pair information pre-set so you don’t have to fiddle with this, but at large sizes you might want to tweak it.

Scalable fonts – Sometimes called “vector” fonts. These are stored in the form of mathematical

descriptions of characters, not bitmapped images of them. This means that characters are redrawn at whatever size you specify – which takes longer, but results in smoother curves and diagonals whatever the size of character, not just on-screen but especially in printouts.

WYSIWYG – What You See Is What You Get. This refers to programs that attempt to give you a representation on-screen of what you'll get when you print out – so that italics are shown as italics, and so on, not as control codes.

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The Director II on the Amiga configures as both a contiguous 4Mb block with separate 64K control window (an '030 or '040 accelerator with extended ram is recommended for use if not already fitted as standard). The PC version is port mapped and configures using standard jumper links.

A high definition version of Director II is available to output 1250 and 1125 lines.

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On the line

It's good news and bad news for comms fans from Dave Winder.

This month, there's some very important news for everyone with any interest at all in comms.

VIRUS WARNING

Attention all comms enthusiasts, a new virus has been unleashed which is aimed squarely at you! One BBS has already been nearly destroyed by this beast.

There is an archive that has been uploaded to some BBSs under the name of **Mcheck.lha**, containing what is supposed to be a program called **ModemChecker**. This utility claims that it tests your modem to make sure everything is working as it should, but that isn't what it actually does. In fact it will return an OK message even if you don't have a modem connected to your Amiga. What it really does is install a nasty little virus that monitors keyboard activity and if it detects nothing for a set period it starts writing obscenities over your hard disk partitions. Reports are that it is very fast and can destroy a hard disk in a matter of seconds.

Take heed and avoid any archive called **Mcheck.lha** or similar, or anything that contains a program called **ModemChecker**. It's better to be safe than sorry!

SUPRA NEWS

All users of SupraFax V32/V32bis modems will be pleased to hear this latest bit of news I have picked up. A lot of users of this modem have complained to me about the amount of line noise they seem to suffer compared to users of other modems, and this could well be the answer. The Supra FaxModem makes use of the Rockwell chipset to do its stuff, and this supports a command that isn't mentioned in the modem's manual.

The command in question is **AT\E1**, which is defined as **Optimise Local Connection**, and this will reduce local echo. The command will configure the modem to minimise the local echo and try to match the local

connection. This should have the effect of reducing the amount of line noise which has been affecting Fax transmissions and causing problems with throughput speeds.

To see if you can use this command, type the following from your terminal software:

AT+FMFR? [Return]

This should elicit the response **ROCKWELL**.
Then type:

AT+FMDL? [Return]

This should result in the response **V.32AC**.
Finally, type:

AT\E1 [Return]

This should get the response **OK**.

WAVEY'S TLA GUIDE

What the hell is a TLA? That's what I hear you all crying, yes even here in darkest Sutton I can hear you. Well fear not for I am about to answer you. Remember a while back I gave you the lowdown on all those smileys? Well, TLAs serve the same purpose as smileys – they help keep your messages short, minimise your on-line time and clarify your meaning, all by reducing a common phrase to a few letters. TLA stands for Three Letter Acronym, which in itself is misleading because most TLA's contain more than three letters! Isn't the world of comms a funny old place?

So if you are on-line and see a strange group of letters sitting there which don't make much sense to you – and assuming this isn't because of the eight pints of scrumpy you've just polished off – read on and be armed to the teeth with the TLAs to reply:

BTW By The Way
FAQ Frequently Asked Question
FWIW For What It's Worth
IMHO In My Humble Opinion
IMO In My Opinion
ISTR I Seem To Recall

Argonaut is a licensed developer with both Nintendo of America, and Nintendo Company Limited. We have specialised in GameBoy and Super Famicom (Super Nintendo). We use our own custom development system consisting of assembler and hardware emulators designed in-house. We even designed our own 'debugger chip' for them.

We have recently completed the Super FX chip for Nintendo; a fast RISC microprocessor capable of generating real-time 3d graphics of polygons, sprites and texture mapping for use in Super Nintendo games. Our first Super FX chip game: StarFox, has just been launched at the January CES and is expected to sell over a million copies (we hope). Our 'softgraph' does something like this...

StarGlider (Amiga, ST)
StarGlider 2 (Amiga, ST, PC)
Nitenrunner (Amiga, ST)
Days Of Thunder (PC, GameBoy)
Golem (Amiga)
Lunar (GameBoy)
Birds Of Prey (Amiga)
Lunar Chase (GameBoy)
Birds Of Prey (ST, PC)
NINE (Amiga, ST, PC)
Quacker (PC)
Lunar Chase (GameBoy)
Space Football (Super Nintendo)
King Arthur's World/Soual Conquest (Super Nintendo)
Super FX chip (3d RISC processor for Nintendo)
StarFox (1st Super FX chip 3d game for Nintendo)

Coming soon.

Some movie licensed games on cartridge and CD-ROM, and a few more Super FX chip products, more silicon, and some state of the art CD-ROM games!

If you ask to see someone's resumé, what you get depends on what that person put there. This is a slice of Jez San's. Who he? Just read the resumé!

NALOPKT Not A Lot Of People Know That
OTOH On The Other Hand
PITA Pain In The Ass
ROFL Rolls On Floor Laughing
RTFM Read The Friendly Manual
TIA Thanks In Advance
TPTB The Powers That Be

CIX TRICKS 'N' TIPS

The wonderful thing about conferencing on a network such as CIX (the Compulink Information eXchange) is the social contact, the fact that you are talking to real people out there. But who are they? This month I'll show you the easy way to find out who's who on CIX.

First of all, you may like to see who is actually online at the same time as you. To do this, just type **WHO** at the **Main:** prompt. This will result in a list similar to the one in the screenshot below left.

Now that we can see who is actually on-line, you may like to know a bit more about them. I have spotted a major player in the world of computer games in the list, so let's find out more. To do this you need to get his resumé. A resumé is a text file you can write yourself, about yourself. It can be long or short, factual or funny, or just plain daft. My resumé is incredibly serious and certainly does not feature a naked lady in any shape or form. But back to the point, Wavey: to get the resumé just type **Show Resume** followed by the username, at the **Main:** prompt. The superstar I have spotted is Jez San, **jsan@cix**. So typing **Show Resume jsan** results in Jez's personal biography being displayed. Part of it is shown in the screenshot at the top of the page and tells you just why he's considered such a big cheese in the games world.

If you would like to know who is sharing the conference you are in, you can easily find that out too. Using the **amiga** conference as a fairly natural example, let's see how you do it. It couldn't be easier – just type **SHOW PART** at the **Main:** prompt and you will get a list of all

members of that conference. This can run to many screenfuls – for example the **amiga** conference has over 700 members. The screenshot below shows the sort of list you will get – this is only the first screenful and just happens to finish off with those lovely chaps at **Amiga Shopper** (good magazine that, you should buy a copy). To find out more about any of them, just use the **Show Resume** command as described earlier. **AS**

```
show part
aalford
aazarni
abaileya
abersof
abragins
abrain
abroad
abrown
abruce
aburge
abutcher
acelough
accusing
acruikshankc
acuma
adowds
aeskelson
agibbsa
agould
agreenc
agrimley
ahamblett
ahide
ahough
ajones
ajordan
aking
aknight
akzo
alchem
alewisa
alexif
alfox
alien
almaop
almathera
altay
altimage
alix
amformat
amigacomputing
amigawatt
amiller
amshopper
More ?
```

Who's sharing your conference? This is a small part of a big part list.

YOU READ IT, I'LL WRITE IT

Is there a particular comms-related subject you would like to see covered in some depth in the pages of *Amiga Shopper*? If so, just let me know. If enough people contact me either by writing to me care of *Amiga Shopper* or by Email as **dwindera@cix.compulink.co.uk** then I will do my best to feature your requests in future issues.

```
who
agnout      amdh      dwilne     drdobh
dwardell    dwindera  dwindera   francis
garetthe    de        jeason     jgd
joni        jsan      jstote     julies
jwalton     kleenex   mbennison  murpau
nagrb       path      paulmw     pdcawley
napple      rcornwell pnc        smalbou
spoolay     tonyd     tosmoud
* = listening
31 users online
Rf: 3
```

Is there anybody there? Type WHO at the Main: prompt and you get a list of everybody on-line at the same time as you. You can then find out more...

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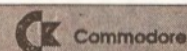
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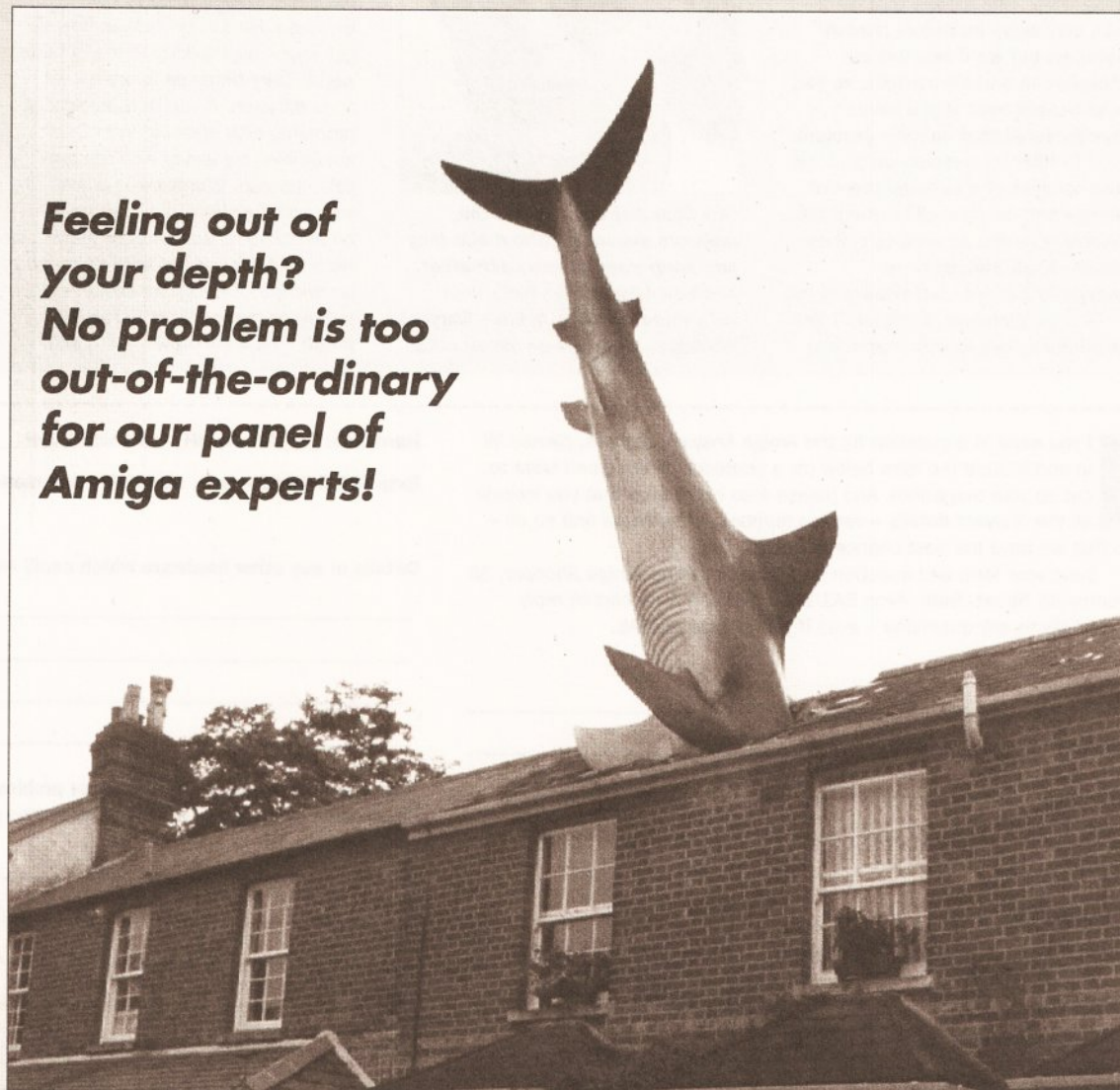
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Questions that raise basic problems or deal with elementary issues feature this icon.



This icon's for general Amiga-related queries or questions that don't fall under other headings.



This is the icon you'll find next to queries related to the whole area of desktop publishing.



Questions about monitors, including television display problems, will feature this icon.



This icon's for queries relating to general hardware, excluding kit covered by other headings.



This icon indicates a question asking for buying advice in any area, hardware or software.



If a query concerns printers, printer drivers and hardcopy problems, this is the icon you'll find.



Questions about coding (no matter which language) will have this icon next to them.



This one's for queries about using your Amiga with video hardware such as genlocks or digitisers.



This icon is for questions about MIDI, sampling, synthesizers and music software.



Queries about specific software packages or programs have this icon next to them.



If your question relates to comms, including modem problems, this is the icon we'll use.

NO PROBLEM!

Hello and welcome to this month's information-filled nine pages of Amiga Answers – the magazine within a magazine. Our mission: to provide the most definitive and informative question-and-answer section of any Amiga magazine. This means that we'll not only solve individual readers' queries, but we'll also set our answers in a wider context, so you can benefit even if you haven't encountered that specific problem.

To fulfil our mission we draw on the services of a talented team of Amiga enthusiasts, all of whom are widely regarded as experts in their fields. **Mark Smiddy** is our AmigaDOS expert. **Jeff Walker** is our DTP correspondent. If you can't get a printer to talk to your machine or



Gus Chandler coordinates the Answers experts. Without him they just keep walking into each other... need the lowdown on fonts then he's your man. Then there's **Gary Whiteley**, an expert on the amazing

video capabilities of the Amiga. **Jason Holborn** has mastered the intricacies of AMOS, and with his advice you'll be able to do likewise. Jason also has an encyclopedic knowledge of what's available in the PD world. If you have a query about comms then we'll set recent star of the small screen **Dave Winder** on the case. He'll soon explain how to get your Amiga talking to the outside world. **Toby Simpson** is our expert code clinician. If you're experiencing problems with anything from C to assembler, try taxing his little grey cells instead. **Wilf Rees** is a man with an education – well, an expert on educational software, at least. He's also got a jolly useful all-round knowledge of Amiga hardware. Last but by no means least is **Jolyon Ralph** – he also knows lots about

hardware and he's just the chap to help you get your disks to drive or your CDTV to... um, work, really.

So that's our batch of boffins – the rest is up to you. Keep those problems rolling in. This month we've included a tip from one of our readers, John Ward – for which he picks up a crisp ten pound note. If you've got any tips or hints to share then send them to us and you could soon be a tenner richer. Please mark the envelope "Tips".

One final point. Please don't include an SAE with your questions – we simply receive too much mail to be able to offer a personal reply service. Read and enjoy.

Gus Chandler

If you send in a question for the Amiga Answers experts, please fill in and include the form below (or a photocopy if you don't want to cut up your magazine). And please also make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you.

Send your form and question to: Amiga Answers, Amiga Shopper, 30 Monmouth Street, Bath, Avon BA1 2BW. Sorry, but we cannot reply personally to any questions – even if you include an SAE.

Name: _____

Address: _____

Your machine:

A500 ☐ A500 Plus ☐ A600 ☐ A1000 ☐ A1200 ☐

A1500 ☐ A2000 ☐ A3000 ☐ A4000 ☐

Approximate age of machine: _____

Kickstart version (displayed at the "Insert Workbench" prompt)

1.2 ☐ 1.3 ☐ 2.x ☐

Workbench revision (written on the Workbench disk)

1.2 ☐ 1.3 ☐ 1.3.2 ☐ 2.x ☐ 3.0 ☐

PCB revision (if known). Do not take your machine apart just to look for this! _____

Total memory fitted (see AVAIL in Shell for Workbench 1.3) _____

Chip memory available (see AVAIL in Shell) _____

Agnus chip (if known) _____

Extra drive #1 (3.5in/5.25in) as DF__: Manufacturer _____

Extra drive #2 (3.5in/5.25in) as DF__: Manufacturer _____

Hard disk: _____ Mb as DH__: Manufacturer _____

Extra RAM fitted – type, size in Mb and manufacturer _____

Details of any other hardware which could help us to answer your question:

Now, use this space to describe your problem, including as much relevant information as possible. Please continue on a separate sheet if necessary.

SCROLL CORRUPTION



I cannot believe I am the only person in this country who has tried to open a screen 1,000 x 1,000 pixels using AMOS Professional and print bobs to the second half. It clearly says in the users manual that I can do, but all I get is screen corruption whenever I try to reveal the bottom part of the screen using the "Screen Display" command. When I contacted Europress, they claimed that the new A1200 version of AMOS Pro (1.12) would solve the problem, but it hasn't. Even when I contacted Europress again, they were stumped. Can you help?

V Parkes
Borehamwood
Herts

There certainly seem to be a few problems with the **Screen Display** command when used with such large bitmaps, so my solution would be not to use it. Sounds drastic, I know, but you can get exactly the same effect using AMOS's **Screen Offset** command. Here's a short listing that will open up a 1,000 x 1,000 bitmap and will then enable you to scroll around it using the joystick. Obviously it will need to be adapted for your own particular needs, but other than that it does the same job beautifully! JH

Rem *** Legal 1000x1000 Scroller
Rem *** By Jason Holborn, AS
Screen Open 0,1000,1000,16,Lowres
Screen Display 0,128,48,320,256

For C=0 To 200

```
X=Rnd(1000) : Y=Rnd(1000)
Text X,Y,"AMIGA SHOPPER!"
Next C
X=0
Y=0
Repeat
  If Joy(1)=1 Then Add Y,-4
  If Joy(1)=2 Then Add Y,4
  If Joy(1)=4 Then Add X,-4
  If Joy(1)=8 Then Add X,4
  If Y=-4 Then Y=0
  If Y=748 Then Y=744
  If X=-4 Then X=0
  If X=684 Then X=68
  Screen Offset 0,X,Y
  Wait Vbl
Until Joy(1)=16
Screen Close 0
```

A LEADING QUESTION



I have a GVP Series II hard drive connected to my A500 Plus. Is there a lead available to link this with my computer so that I can hide it out of the way, in a box under my monitor?

Those PC Emulators advertised in PD libraries – do they really work? I would like to run DOS/Shell, Word Perfect and Lotus 1-2-3.

S Green
West Midlands

Although it's theoretically possible to create a cable to attach your hard drive to the side of your A500, it would be difficult to use a cable any longer than about an inch, or you would suffer from crashes and other problems due to the distance between the RAM (and to a lesser extent the hard drive controller) and the motherboard.

The PC-Task demo advertised in PD libraries is just that, a demo

The symbol means do not type a return – keep typing to the end of the next line. means type a space, then keep typing to the end of the next line.

DMI AND DIGITAL EDITMASTER – A CORRECTION

In a reply to a query from H C Tsui of Hong Kong in *Amiga Shopper* 29, we said that DMI, manufacturers of the Digital Editmaster video editing system, had gone out of business. In fact Digital Editmaster is made by Digital Micronics Inc. an American company which has *not* gone out of business and bears no relationship to Direct Marketing International PLC, a UK company which *has* gone bust. Digital Editmaster is still available for around £1,899 from Chartscreen (☎ 0425 475515, fax 0425 475525) or White Knight Technology (☎ 0992 714539). Apologies for any confusion.

version. It has Save disabled so you cannot write to disks from the emulator, but you can try it out on your machine. (There are several libraries out there supplying the full, commercial, version of PC-Task in their PD collections. Such versions are pirated, and the libraries in question will soon be in deep trouble.) PC-Task should be able to run DOS, Word Perfect and Lotus 1-2-3, albeit rather slowly on a standard A500 Plus. You will not be able to run Windows 3.1 on the emulator, or any other software that requires a VGA display. JR

SLOW PRINTOUTS



PageStream prints out pages to my DeskJet 500 very slowly. Deluxe Paint prints them much faster. Would it be possible to save a PageStream file to disk, or better to RAM, and then print it using some other program that can do the job faster?

J H M Joel
Capdepera
Mallorca

The main reason *Deluxe Paint* prints faster is because it is not sending so much data to the printer.

When printing at 300 dots per inch, an A4 *PageStream* page is about 2480 dots wide by 3,500 dots high, which is about 8.7 million dots in all. A typical *Deluxe Paint* "page" is usually the size of the screen, let's say 640 by 512 dots (or pixels, same thing), which is about 328,000 dots in all. So the *PageStream* page contains about 26 times more data than the *Deluxe Paint* page.

Before *PageStream* can send the data to the printer it has to create the page in memory at the specified printer resolution. Then those 8.7 million dots have to be sent down a cable to the printer. A parallel cable has eight data lines, so the dots go in groups of eight – eight dots get sent, the printer receives them and sends a message back to say it's ready for more, eight dots get sent... and so on until all 8.7 million (plus various printer control codes) have been sent and printed. All of this takes time.

The maximum speed at which the printer accepts data, prints it and sends a message back asking for more is governed by chips inside the printer. It can't be made to go faster.

The maximum speed at which data gets sent down the parallel cable is ultimately governed by chips inside the computer. It cannot be made to go any faster. But the printer driver is the software that actually sends the data, and the transfer rate is in effect governed by how fast the printer driver is. If it has been written poorly in C, it may send data slowly; if it has been written efficiently in Assembly Language it may send data as fast as the parallel port can take it. The **HP_DeskJet** driver that came with your Amiga isn't particularly fast; the one provided with *PageStream* is a little faster; but an even faster printer driver will certainly speed up printouts. The fastest and most efficient DeskJet drivers available for the Amiga come with a printing utility called *Studio* (available from JAM on ☎ 0895 274449).

The speed at which the page gets created in memory is governed by the speed of the central processing unit (CPU) and the type of memory available. This can be made to go faster, by fitting a faster CPU and some faster memory – or in other words, an accelerator board with some 32-bit RAM. So a faster

CLIP ART PIC TIP



Amiga Shopper reader John Ward from Derby wins £10 for this tip.

Importing bitmap graphics into *PageSetter* can throw up a few problems if you do as I do, importing them as images prepared in *Deluxe Paint*. I have an Amiga 1200 with hard disk and a Citizen 240C printer, but the following tips are applicable to any Amiga set-up with or without hard disk.

Most of my clip art has been obtained from Artworks and EM Computer Graphics, both of which are excellent and which I can highly recommend. Artworks is especially good because their disks are sensibly categorised with the graphics all in the same resolution and arranged on the page in rows, making them extremely easy to use as supplied. EM are in a variety of

formats and rather fragmented, but are good quality nonetheless. It is a good idea to arrange your disks into sensible categories and subjects into directories if you are accumulating a large collection. Mine sit in a special clip art directory in the *DPaint* drawer with subdirectories for different subjects. This makes them much easier to find when required.

Because there are often many graphics per page, you need to process the image you want using *DPaint* first before it is ready for importing into *PageSetter*. It's not necessary, but I stick with medium resolution for consistency. Before starting, set up the *DPaint* page to the required resolution and to two colours (black and white). Load the graphics page from your clip art source and extract the required

graphic as a brush. Clear the screen and size the brush to produce an image which fills the screen approximately. Now you can either save as a brush or stamp the brush on the page and save as a picture. Before you do, here is the essential tip: make sure before you save that the AUTOGRID option is off. If you don't, the image when imported into *PageSetter* will print distorted and in an incorrect position on the page. This can be puzzling when everything looks okay on the *PageSetter* screen boxes.

I'm sure many *PageSetter* users have found this out for themselves, but I've never seen it mentioned anywhere. With my Citizen printer I can set the print resolution to 360x360 dpi and the results are really very good, rivalling lower-end laser printers.

printer driver, or a faster CPU, or both are the only ways to dramatically speed up printouts from DTP and paint program.

It is possible to specify in *PageStream's* **Configure Printer** requester that the page should be printed as a disk file. (Judging from your question about *Protext* I think you've already discovered this.) This file can be printed using the normal AmigaDOS **Copy** command, like this:

```
Copy DH1:PageStream/☛
```

Letterhead to PAR:

This will speed up the actual printout itself, but if you add on the time while *PageStream* was "printing" to disk, I think you'll find that the total time taken to print the page is only fractionally faster than when *PageStream* is printing directly to the printer. But it is faster. **JW**

FLEXIBLE BOOTS



GENERAL

I have installed a switch that enables me to switch between 1.3 and 2.04 ROMs. This allowed me to use my old software. I recently purchased a new hard disk that autoboots only from version 2.0. I wish to be able to also boot from version 1.3. I have heard that it is possible to partition the hard disk, one for 1.3 and one for 2.0, in such a way that makes it possible to boot from 1.3 or 2.0, depending on the ROM that is currently switched on. Is this

possible? If so, how do I need to set up my hard disk? What should be in my startup-sequence? And is it possible to install a hardware switch that will disable my hard disk? My controller (MultiEvolution v3.0) does not have this function. **D Drennen
Bremen
Germany**

Unfortunately I know nothing about the MultiEvolution controller, which I

do not think is available in the UK, but based on the information you gave I suspect that it is not possible to boot from 1.3 in the way you suggest.

The only machines that can boot from either a 1.3 or 2.04 partition depending on what ROM is present are the early Amiga 3000s with the SoftKick ROM. These worked exactly as you suggest, with two partitions each with its own Workbench set up (and normal startup-sequences).

Unfortunately (again) if your controller does not have a disable switch then there is little you can do to disable it, short of removing the board. Your best option may be to upgrade to a new controller that supports the features you want. Both the Commodore A2091 and the GVP HC8+ will boot from either 1.3 or 2.04 (although from the same partition, so you will need a complex startup-sequence and both sets of Workbench files on the same drive) and both can be fitted with disable switches. **JR**

JARGON BUSTING

Bitplane/bitmap – A bitplane is an area of memory where every binary bit corresponds to a pixel on the screen. One bitplane represents a monochrome image; several can be overlayed (creating a bitmap) to represent a colour image.

Emulator – A device, either hardware or software, that enables programs written for another machine to be used on the Amiga.

Printer driver – A program that sits in between an applications program producing output and the printer. It converts any codes describing text and graphics format into a form suitable for a specific printer.

Scanner – A device which converts

an image on paper into a digital form which can then be used in a paint package on the Amiga such as *Deluxe Paint*.

Startup-sequence – A program which is executed every time the Amiga is switched on or reset. It sets up the system so that it is usable from Workbench, and may be customised by those who have unusual hardware or software requirements.

VGA – Video Graphics Array. A high-resolution colour or monochrome graphics system for the IBM PC, with 80 columns by 25 or 50 line text and a huge range of colours – sometimes 256 on-screen at a resolution of 1,024 x 768.

HAND SCANNER ADVICE



I am thinking of buying a hand scanner and would much appreciate any advice you could offer me as to which ones are best, either black and white or colour. Also, how far would I need to expand my current set-up to get best results? I have a Workbench 1.3 Amiga 500 with a 512K memory expansion and a second floppy drive.

**J E Smith
Middlesbrough
Cleveland**

Scanning is one of the most memory-intensive things you can do on a computer. Even a small black and white scan at 400 dots per inch can require a very large amount of

continued on page 45

FIT TO PRINT

A4 OR NOT A4



PRINTERS

I have a problem with *PageStream* 2.2, configured to use the BJ130e printer driver with the BJ-10ex under BJ-130e emulation, as stated on the Canon printer drivers disk.

I am using A4 paper, 210mm by 297mm. In the *PageStream* manual it says I should set the printer page length to the actual size of the paper I am using. When I do this the printer prints only about seven-eighths of the page.

I have tried many different printer and page sizes, all to no avail. If I do get the printer to print a full page and ask *PageStream* to print more than one copy, the starting point on the page prints lower and lower every time.

Please tell me what settings I should use for both A4 and A5.

**Mike Duffield
Bury St Edmunds
Suffolk**

For cut sheet paper – separate, single pages, in other words – the BJ-10ex has a minimum top and bottom margin of half an inch (12.7mm). Nothing you can do about it, that's how it works. Almost all printers impose minimum top and bottom margins for cut-sheet paper. This is because the printer needs a bit of paper at the top to grab hold

of in order to feed the paper in, and a bit of paper at the bottom to grab hold of in order to feed the paper out. And for the BJ-10ex that "bit of paper" is half an inch, top and bottom.

So, the length of paper you can actually print on to when using an A4 sheet is not 297mm, it's 297mm minus an imposed 12.7mm top margin, minus an imposed 12.7mm bottom margin, which equals 271.6mm. Or 10.69 inches in old money.

And that's the maximum length you should specify as both your on-screen page size, and your **Paper Size** in *PageStream's* **Configure Printer** requester. To make it easier to remember, round it to 270mm or 10.5 inches if you like.

For A5 paper, which is 210mm long, the maximum length for the BJ-10ex should be 210 minus 12.7 minus 12.7, which is 184.6mm (about 7.25 inches).

GIVE HIM AN INCH ...



PRINTERS

I have a Xerox 4030 laser printer which emulates the Hewlett-Packard LaserJet and I can only print 10 inches on A4 paper. There was a patch printed somewhere

that re-set the HP_LaserJet driver to give the full 11 inches, but either I've lost my patched version or it doesn't work on the Amiga 4000 under Workbench 3. Please help, I'm absolutely

desperate for another inch (ooer!).

**Steve Calkin
Canvey Island**

The **HP_LaserJet** driver that comes with Workbench 2.1 and 3 recognises the DIN A4 paper size in Workbench Printer Preferences, and from my experiments it would appear to specify A4 size as being 7.75in by 10.66in. This is consistent with the laser printer imposing its own half inch (ish) top and bottom margins and quarter inch (ish) left and right margins – add on those and you get 8.25in by 11.66in, which is A4 near as damn it.

If you want to get even closer to the bottom of an A4 page, then select the US Legal paper size in Workbench Printer Preferences, which is 14in, although the driver again assumes a printer-imposed half-inch top and bottom margin, so the actual printable length is 13in. Keep in mind that if your laser printer imposes a half-inch top margin, anything on an A4 screen page that is below 11in will not be printed, or (depending on the program doing the printing) may be printed on the top of the next sheet of paper. **JW**

• For more information on how to get your printouts right, see the special feature in last month's *Amiga Shopper*. If you missed that issue, turn to our back issues service on page 108.

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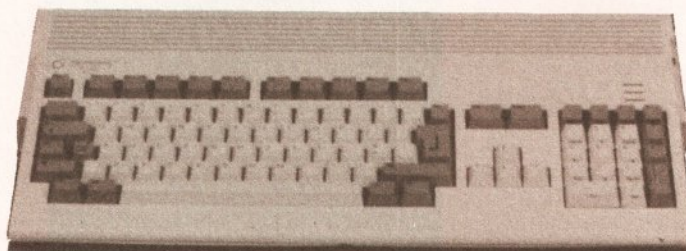
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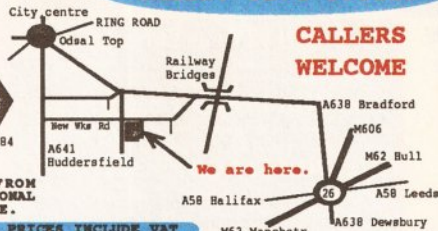
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continued from page 40

memory, and that memory will have to be in a "contiguous" chunk – all in one big area of adjoining bytes of memory, in other words.

The formula to calculate how much memory a black and white scan will require is quite straightforward: (Width in Inches * Scan Resolution) * (Height in Inches * Scan Resolution) divided by 8, equals the number of bytes required. (The asterisk symbol * means "multiplied by".)

For example, let's say you are scanning something that is 4 inches wide and 6 inches high, at a scan resolution of 400 dots per inch. So $(4 \times 400) \times (6 \times 400) / 8$, which is $1,600 \times 2,400 / 8$, which is $3,840,000 / 8$, which equals 480,000 bytes of memory – almost half a megabyte!

Remember this is memory that has to be available, in a single contiguous chunk, after Workbench has booted and after the scanning programming itself has been loaded.

As your system stands at the moment you have two types of memory in your Amiga – Chip (graphics) memory and Fast (expansion) memory, 512K of each, which is cutting it really fine for scanning purposes. With such a set-up you'll be restricted to scan areas (at 400 dpi) of about 4in by 4in or less, and you'll have to keep re-booting the computer after each scan to defragment memory.

So before even considering buying a hand scanner, you need to get yourself some more memory. How much memory? Well, as much as you can afford, but at least another 1Mb, giving you a total of 2Mb – 512K Chip, 1.5Mb Fast. Personally I'd recommend you bought a memory expansion that fits into the bus on the left-hand side of the 500, into which you can place memory chips. This way you can buy and easily fit more memory as and when you can afford it. But make sure you get one with a throughport in case in the future you need to plug anything else into the expansion bus at the same time as the memory expansion.

Of the greyscale hand scanners available, quality-wise there's not much to choose between the DaataScan Professional, the AlfaScan Plus and the Power Scanner. DaataScan comes with the simplest software, and is therefore the easiest for beginners to get to grips with; AlfaScan comes with the most powerful software and may scare the life out of nervous beginners because it has more features than you can shake a stick at; Power Scanner is a happy medium between the two.

The cheapest colour hand scanner currently available is the 12-bit PowerScan Colour (£239, Power Computing ☎ 0234 843388). Keep in mind that colour data requires much more memory than black and white data – for colour scanning 3Mb of contiguous memory is probably the bare minimum to be able to scan anything that is going to be of any use. And if you are going to save and use the 12-bit data, rather than a lower quality HAM or 32-colour image, you will almost certainly require a hard drive – file sizes tend to be massive. **JW**

OFFENSIVE INSTALLATION



GENERAL

I recently upgraded from an A500 to an A1200 and thought it was about time I had a hard drive. I fitted a

40Mb IDE drive, which came ready partitioned and formatted, and proceeded to copy the relevant bits and pieces from the Workbench disks to the system partition, customising the keyboard and inserting the full Workbench startup-sequence from the original disk.

Everything seemed to work fine, but the first problem occurred when I tried to install *Wordworth 2*. The hard drive install program on the *Printerfont* disk worked fine, but when I try to open *Ww* the system throws a "SOFTWARE FAILURE #80000004" in my face. I used *Wordworth 2* from floppies before I got the drive, so I know it should work, and I still have 1.7Mb of RAM, so that's not the problem.

I have noticed that quite a bit of my so-called hard-drive-installable software gives this "Unable to open your tool" message, but everything works fine when installed from the RAM drive. What am I doing wrong? This has made using my hard drive not a dream, but a real pain.

**J Burns
Sunderland
Tyne & Wear**

It's difficult to tell exactly where your

problem lies, but there are a couple of possibilities. You say the drive was supplied formatted. This means it should have included all of the 3.0 system files, and you should not have needed to copy any files over from your Workbench 3 disk set. It's possible that either the drive was not set up properly in the first place, or you have overwritten or deleted important files. In either case contact the suppliers and see if they can help you restore your system. You will need to use the Commodore 3.0 Install disk to restore your system. If you cannot borrow this disk from a friend, then you will need to contact your suppliers for reinstallation.



CAUTION

It's also highly likely that another package you installed has overwritten important system files. I was horrified recently to discover that the *Vidi Amiga 1.2* software install script overwrites Workbench 3.0 system files with older release 2.0 files, causing the machine to crash and requiring the reinstallation of Workbench! Such abysmal install scripts are rare (I believe Vidi have now fixed the problem with their software, although they would not send me an update disk to check this out). Beware of software that does not use the official Commodore Installer program. **JR**

NOT SO HANDY



PRINTERS

I have an A500 Plus and a Citizen Swift 24e printer with colour kit. I use that truly

remarkable program *Wordworth 2-AGA* and have bought the *Citizen Print Manager*. But how do I use the *Print Manager*? I know that I am supposed to run the *PM* program before I run *Wordworth*, but what does that mean exactly? I have copied *Print Manager* to a new disk and I think that I can safely and correctly choose the preferences I want to use and then save them to that disk. But what then?

To date I have been switching on my Amiga, then switching on the

printer, then inserting the *Wordworth* program disk and the *PM* disk. When I get the Workbench screen I double-click on the "PM prefs" icon and run the program. I then run *Wordworth*. Is this correct or should I be saving the *PM* program as a prefs file on the *Wordworth* disk?

Do I have to have the printer switched on first? Can I switch the printer off and then on again without losing the *PM* prefs?

Earlier versions of *Wordworth* were run by double-clicking on one of any number of Prefs icons that were on the same disk. The new AGA version would appear to have to be run from the "Ww" icon, which then calls up the only prefs icon on the disk. Does this mean that it overwrites the *PM* prefs I have previously selected?

What I really need is a blow-by-blow account of how to select all the preferences from *Print Manager* to get the best possible output from my Swift 24e, using a Citizen colour ribbon and either eight or preferably 16 colours on-screen with large size Agfa Intellifonts.

I wrote to Citizen but they were not at all helpful. The *Wordworth* publishers, Digita, were much more helpful, but I still do not know the full answers to my queries.

**Ron J Handy
Cricklewood
London**

You are running *Citizen Print Manager* and *Wordworth* exactly the way they were designed to be run. When you save the *PM* preferences you should save them to the *PM* disk, not the *Wordworth* disk. Next time you run the *PM* program afresh, these settings will automatically be loaded, saving you the bother of setting them all over again.

You do not have to have the printer switched on when setting or saving the *PM* prefs, and it matters not if you switch the printer off – after you've set them once the *PM* settings will only be lost if you switch the Amiga off.

Sorry, there's no way we could fit in a blow-by-blow rundown on how to operate all the features of *Citizen Print Manager*. I have the program here, and the manual (as supplied by Citizen) describes all the functions more than adequately in plain English and six other languages. On the many occasions I have called the Citizen Response Centre – not as a journalist, but masquerading as an end-user – they have always been nothing less than polite, and on most occasions very kind and helpful.

Writing to any company for help with one of their products is never the best way to go about it. A 15-minute telephone conversation can

JARGON BUSTING

Chip RAM – The area of the Amiga's memory directly accessible by the machine's custom graphics and sound chips. On the first Amigas, this was originally a maximum of 512k. Newer machines fitted with the fatter Agnus graphics chip can access 1Mb, enabling smoother animations and more screens to be displayed at once. The new A600 comes with an Agnus chip capable of addressing 2Mb of Chip RAM.

Fast RAM – Any extra memory which is not Chip RAM. The custom chips cannot access it directly as they can Chip RAM, and because such accesses to Chip RAM can block out the central processor and slow down its own accesses, Fast RAM is faster.

HAM – Hold And Modify is an Amiga graphic mode which enables all 4,096 colours to be displayed at once, with certain restrictions.

take an hour or more to put on to paper, so letters tend to get answered slowly and briefly. To be perfectly frank, answering customers' letters is a rotten job and nobody really wants to do it. They'll talk to you all day on the phone because they can ask you questions about your set-up and give you more accurate advice. Phone the Citizen Response Centre ☎ 0753 584111.

However, at the end of the day, to find out which settings are best for your particular Citizen printer you will have to experiment by selecting different settings and doing lots of printouts. It's called "having fun with your computer".

As for the **Wordworth Prefs** icons, these are simply "empty" projects that are saved with certain features selected or unselected. Look, load **Wordworth**, set it up exactly the way you want it, bring up the **Wordworth/Preferences** requester, hit the **More** button, check that there is a tick next to **Save Icons**, then select **Save**. A file requester appears, and in the **Prefs** gadget at the foot of that requester is the default filename **Wordworth-Prefs**. Change that filename to anything you like – **RonsPrefs**, for example – press the [Return] key, and then hit the **Save** button.

Flip to the Workbench. Close the **Wordworth** disk window. Now open it again. If there isn't an icon in there called **RonsPrefs** you have not

followed the above instructions properly, so go away and do it again. If there is an icon in there called **RonsPrefs**, you will now be able to double-click on this icon instead of **Ww** to start **Wordworth**, and it will present you with an empty document set up just the way you like it. **JW**

SHARES AND SHADES



1. Can Wordworth 2 and ProPage/ProDraw (versions 4 and 3) share outline fonts? I have about 5Mb worth,

and having to duplicate them takes up a fair slice of hard disk. I have tried to get them to coexist, but there appears to be a difference between the two "if.ss" files which stops the fonts from being shared.

2. In a similar vein, is there any way to convert the Intellifonts that come with Wordworth to be used with ProPage/ProDraw if they don't have ".lib" files with them?

3. Now that AGA is starting to be well supported, is it likely that people like me with the old chipset will stop receiving support, especially for stuff like DeluxePaint, which is heading towards AGA support?

4. I have a ProDraw 3 object which uses a gradient fill with eight steps from white to 7% grey. But it will only print with three shades, half the object being grey, three-eighths of it a lighter grey, and the

remainder white. With a little experimentation it appears that only 16 shades of grey can be printed, although the printer is easily capable of many more. Is this a limitation of ProDraw or of the printer driver? I use a Star SJ-48 Inkjet with the Star24Plus driver.

**Andrew Watson
Currie
Midlothian**

1. The system **Wordworth** uses for Compugraphic fonts is quite different from the system **ProPage 4** and **ProDraw 3** use. It's not really a question of one doing it the right way and the other doing it the wrong way; they are merely doing it different ways. Because of this, as you've discovered, **Wordworth** requires its own version of the **if.ss** and **if.fnt** files, plus three more files called **if.dsc**, **libinfo.dsc** and **plugin.tyq**.

With an awful lot of fluffing about, manually copying and renaming files before using particular packages, it is possible to have the **Wordworth** and **ProPage/ProDraw** CG fonts all in one directory, but (having just tried it!) I have to say it really is more hassle than it's worth.

A better idea would be to manage your fonts more sensibly. Instead of having every font you own available in every program you own, put them all into one (or more) "font library" directories, and before starting any particular project decide

which fonts you want (or might want) to use, copy these into the relevant directory for that program, run the relevant utility that updates the font list for that directory – **AGFAInstall** for **Wordworth**, **CG_Update** for **ProPage/ProDraw** – then run the application and get on with the job.

How do you know which fonts you want for any particular project? Simple. Create a page in **ProPage** or **Wordworth** that contains all the characters in a single font, make sure you type the name of that font on the page as well, and then print it. Do the same for all your fonts and you'll be able to flick through your "font book" to choose the best fonts for the job in hand.

2. I mentioned above that **Wordworth** requires a few files for Compugraphic font management that **ProPage** and **ProDraw** don't, and the reverse is also true. The **.type** files that come with **Wordworth** are essentially the same things as **ProPage's** and **ProDraw's .lib** files, but for **ProPage** you also need **.dat** and **.metric** files. The **ProPage/ProDraw FontManager** program creates these when converting from PostScript Type 1 fonts to Compugraphic, but it isn't able to create them for fonts that are already in the Compugraphic font format. To do this you'll need Soft-Logik's **TypeSmith** program.

3. I'm not sure what you mean by "stop receiving support". If you mean will software manufacturers

CODE CLINIC

CODE CLINIC

CODE CLINIC



TOBY SIMPSON RIDES TO THE RESCUE AND DEBUGS ANOTHER READER'S PROGRAM

Author: John Hargreaves
Program: Text adventure game
Language: Assembly language
Fault Summary: Appears to cause corruption occasionally and does not work entirely reliably.

JARGON BUSTING

MMU – Memory Management Unit. This is a hardware feature normally used for systems like UNIX, and gives memory protection and paging facilities, enabling you to make your machine use hard disk space as main memory, for example. The Amiga does not support this "virtual memory" facility, but you can use the MMU's features for debugging and program it to trap illegal memory accesses, which is what a development tool called **Enforcer** does.

This month we're looking at someone's assembly language adventure game. This program is huge, and the author sent me a large chunk of it, saying that "it does not work reliably, and appears to be corrupting memory somehow." The author has an Amiga 3000 and says that he has tested it on his friend's A1200 and the bug happens differently on that machine.

Lecture time first! A program like this, a massive text adventure game, does not need the speed or control given to you by programming in assembly language. This sort of program would be much better written in a language such as C, because not only would it be quicker to write, but it would be much easier to debug and maintain in the future. Just my two cents' worth!

Anyway, on to the program in question. The bug was actually extremely easy to find, and I did it without actually looking at the source code at all until I'd identified the fault itself. I run lots of debugging tools on my development system, and one of these is called **Enforcer**. **Enforcer**

traps illegal memory writes and tells you exactly what happened. The adventure game actually took about two minutes to debug as a result of the "Enforcer hit" which the program caused (see boxout). The program is making a byte write to location **0x0000004e**, which is illegal. The value **0x0000004e** just so

happens to be contained in **d0** also. A strange coincidence. My immediate guess here was that John was using indexed addressing with an uninitialised pointer somehow, like this:

```
move.b    d1,0(a0,d0.w)
```

If **a0** had contained zero, then this instruction would have caused an **Enforcer** hit like the one we actually got. However, debugging by guesswork is time-consuming and particularly stressful if you have more clues to go by – and we do: our **Enforcer** hit. The bottom line of our hit is of key importance to us. We know a few things. First, that we have a byte write to location **4e** of memory. **4e** is sufficiently small to

probably be a structure offset. The data the program tried to write was **0xff**, or 255 in decimal. This was probably done by a **move.b #255** or a **st.b**. This narrows the search down considerably.

We can also examine the contents of the other registers and see if that helps us. Alternatively, let's look at the bottom line, the last bit, which says "**Hunk 0000 Offset 000001c6**". This tells us that the line of program code which caused the hit was **1c6** bytes from the start of the first hunk in the program.

This is now a job for an assembly language monitor or debugger. Any debugger should do – I either use **MonAm**, which comes from HiSoft with **DevPac 3**, or a PD offering called **Amiga Monitor 1.56**, by Timo Rossi. In this case **Amiga Monitor** was quite handy. I simply loaded the executable code into it, noted the memory location it started at, added our hunk offset (**1c6**) to it, and disassembled from memory at that exact point. Lo and behold, this came up:

```
079BEB64 2079 079BEA7A  
movea.l  $079BEA7A,a0
```


deliberately ignore the AGA chipset and produce software that doesn't take advantage of it in order to appease non-AGA users, then the answer is: I hope not, otherwise the development of the AGA chipset will have been a complete waste of time. If you mean will software producers deliberately write software that works only on AGA machines, the answer is: only if they fancy going out of business very quickly.

DeluxePaint 4-AGA works perfectly well on a non-AGA machine. I use it every day on my ageing Amiga 2000, which has a pre-ECS chipset in it. *Wordworth 2-AGA* works fine on it as well. I cannot use the special AGA features, but, well, that's bleedin' obvious, isn't it? I don't have an AGA machine.

But if you mean are you going to be missing out more and more with program upgrades that include special features that work only with an AGA machine, then the answer is: certainly, yes. That's called Progress, which has an annoying habit of not being stoppable.

4. Yes, you're correct about being able to print only 16 shades of grey, but for neither of the reasons you suggest. Incredible as it may sound, it's actually the Amiga that can print only 16 shades of grey. Or to be perfectly accurate, it's a feature of the Amiga's **printer device**, which prints greys in only four bitplanes. A single bitplane can produce two

shades, so four bitplanes can produce $2 \times 2 \times 2 \times 2 = 16$ shades.

For colours the Amiga prints in 12 bitplanes, four bitplanes for each of the primary printing colours (cyan, magenta, yellow), so that's 16 shades of each colour, which means that up to $16 \times 16 \times 16 = 4,096$ different colours can be printed.

Instead of using greys for your gradient fill, try experimenting with colours. Despite the fact that you have **Greyscale 1** selected as a printer preference (I hope, because **Greyscale 2** prints only four shades) and that your printer is a monochrome one, when the Amiga converts the colours into monochrome dither patterns that represent shades of grey you'll find that gradients can be smoother. They will never be anywhere near as smooth as the gradients you see in this magazine because these are composed of 8-bit greyscales – 256 shades of grey – and printed on a very high resolution PostScript device that is capable of reproducing all 256 shades.

If you want to improve the quality of your Star SJ-48 printouts, check out the *Studio Printer Software* (JAM # 0895 274449), which enables you to print in up to 16.7 million colours and 256 greys by employing special dither patterns and printing techniques. Written by Wolf Faust (the person who wrote that **Star24Plus** driver for Star), *Studio*

includes a special Star SJ-48 driver which prints "one-pass" graphics in that printer's 48-pin mode. **JW**

UPGRADE ADVICE



GENERAL

My Amiga system consists of an A500 with Kickstart 1.2 with an A501 RAM expansion, second disk

drive and GVP 52Mb hard disk. I have a number of questions:

1. Apart from booting from the hard drive, would there be any benefit in upgrading to the Kickstart/Workbench 1.3 combination?
2. Since I am considering upgrading to an A1200, do you know of any way to connect the hard disk to the A1200? I can't afford the A1200 with an internal hard disk.
3. If I cannot connect the existing system, could I connect the existing A500 with hard drive to the A1200 via the serial port and access the hard drive from there? If so, what sort of lead would you recommend?
4. Can the CDTV drive be connected to the back of the GVP drive, and would it work on my A500 with only 512K of Chip RAM?
5. Would ARexx work on a Kickstart 1.2 machine?

**C Parker
Reading
Berks.**

1. There is an important distinction to make here: Kickstart is an

operating system; Workbench is a collection of utilities and extensions which work with that operating system. The only noticeable difference between the 1.2 and 1.3 ROM is the addition of autobooting hard disks – something you are already aware of. Although this upgrade is not as important as the Workbench side, it is worth the effort – it can be done at home in under an hour with the minimum of tools and experience.

However, the Workbench itself was vastly improved, not least with the addition of the Fast Filing System for hard disks. Many of the libraries were extended and various other utilities were added. Some bugs were fixed and the whole thing ticks along a lot nicer. AmigaDOS got a usable Shell for the first time, with a command-line history and memory resident commands. This set is available as a disk-only upgrade and is well worth the £15 (or less) you'll pick it up for.

2. I'm going to stick my neck out here and say no. It can't be done because the A1200 uses a different connector altogether. I have no doubt you are one of thousands in the same predicament, but most will find it more convenient to sell the whole lot and start again. (Now watch someone prove me wrong.)

3. You could if you had Workbench 1.3 – but this is not another reason to upgrade. I'll take a wild guess and

CODE CLINIC

CODE CLINIC

CODE CLINIC

```
079BEB6A 50F1 0000
st.b      $00(a1,d0.w)
079BEB6E D3C0
adda.l    d0,a1
```

The offending line is **st.b \$00(a1,d0.w)**. If we examine our *Enforcer* hit, we'll see that **a1** just happened to be **0** when this hit took place, which meant that it wrote to the memory location that happened to be in **d0**. The fix needed is to change the move instruction above it. The **a0** should have been an **a1**.

The author's source code looked like this:

```
LineProcess: bsr      InitGame
```

```
bsrInputLine      ; Input ▼
                  a line
suba.l             a1,a1
move.w            CurrOffset,d0
move.l            LineBuffer,a0
st.b 0(a1,d0.l)
add.l             d0,a1
move.l            LineBuffer,a0
jsrPrintMessage
bsrSplitWords
bsrStripWords     ; Take ▼
                  out things.

bsrProcessSentence
bsrPrintWords
rts
```

The mistake he made was quite common in assembly language – it's easy to confuse registers, and he just mistyped the line. The problem was that the bug then didn't happen

immediately. What **d0** contained would dictate which location got corrupted. **CurrOffset**, which gives **d0** its contents, gets incremented depending on what happens in some later routines, so it was hard for the author to track it down.

Another bug in the above code is that the **st.b** line not only had one bug, but actually had two. The reference to **d0.l** should have been **d0.w**. With the line as it is, if the upper 16 bits of **d0** had been corrupted in some way (by a previous **move.l** for example) then **st.b** could have set all sorts of strange memory locations.

Another thing is that the comments are bad. In fact, they're pretty bad throughout the program, I'm afraid. There are two comments in this bit of code, and neither of them helps. One comments to an already self-explanatory line (**Input A Line**) and the other simply says "take out things". I've written adventures before myself, on the BBC-B in both BASIC and assembly language, and I gave up the assembly language one because it was

so big, and so hard to follow because I had not documented it properly. If you are going to program an application of this sort in 68000, you need to pay very special attention to structure and documentation.

The other thing is that the author has an Amiga 3000, which means he has a 68030 chip with an MMU (Memory Management Unit). This allows you to run *Enforcer*. *Enforcer* is a handy tool – you've seen it in action this month and we found a serious bug with it in minutes. If you have a 68020, 68030 or 68040 chip with an MMU then you can run this – and if you're serious about programming on the Amiga, you shouldn't leave home without it! The latest version of *Enforcer* is by Mike Sinz and is called *Advanced Enforcer v37*. It is available for download from CIX and numerous other places, and you get it from Commodore if you buy the Native Developer's Upgrade Kit. If you have the hardware to run it (an MMU) then *run it!*

In the next issue of *Amiga Shopper*, we'll do a special feature on debugging and detail all these debugging tools in greater depth.

THE ENFORCER MAKES A HIT

Enforcer Hit! Bad Program!

```
22-Jul-93      13:55:32
BYTE-WRITE to 0000004E      data=FF      PC: 07A1193E
USP: 07A70E2C SR: 0000 SW: 0711      (U0) (-) (-)      TCB: 07A60D48
Data: 0000004E 0000000A 078B25C8 000002A8 00000000 01E2BD0B 01E03C1B 07A11774
Addr: 078B25C8 00000000 0780E12C 07A11774 07A11842 07A11852 0780DFE4
Stck: 07A118BC 07A1187E 00F958EA 00008000 07A68D68 07B75520 000E0500 6B206469
Stck: 7361626C 65206E65 7374696E 6720636F 756E740A 0A095557 4F524409 4174746E
Stck: 466C6167 73093B20 73706563 69616C20 61747465 6E74696F 6E20666C 61677320
Stck: 28726561 6461626C 65290A0A 0955574F 52440941 74746E52 65736368 6564093B
PC-8: 4EAEFFD0 4E756100 01F06100 003493C9 303907A1 18E42079 07A1184A 50F10000
PC *: D3C02079 07A1184A 4EB907A1 19006100 003C6100 01166100 02126100 00D84E75
Name: "New Process"      CLI: "ADV.X"      Hunk 0000 Offset 000001C5
```


assume what you want to do is access all the facilities of the A500 on the A1200 by (in effect) downloading the software over the link. If this is the case, forget it. The maximum transfer rate is slower than a floppy disk and it isn't worth the hassle. Besides, with the standard software and the addition of a simple (PD) terminal emulator, all you would be able to do is control the A500 from the A1200 or vice-versa.

Don't believe that this can be done? The command from AmigaDOS is simply:

NEWSHELL AUX:

4. No and, er, no. In theory you could add any SCSI CD drive provided the cable is available, but then you'll need the software to drive the device – use it, in other words. There's more to this than meets the eye, I'm afraid.

5. Yes. But ARexx comes free with the later Workbench (v2 upwards) – so why buy (or risk pirating) what you can get for free? **MS**

HEWLETT-PACKARD DRIVERS



PRINTERS

Could you tell me if my Amiga 4000 has a suitable driver available for the Hewlett-Packard Deskjet 500

Colour and PaintJet Colour printers? Other than a laser printer, what would be the best printer to use with the 4000?

R Minns
Southbourne
Dorset

The most modern and suitable Amiga printer drivers for use with all Hewlett-Packard DeskJets, all LaserJets and the PaintJet XL300 come with a printing package called *Studio*, available from JAM on ☎ 0895 274449.

As for which is the best printer for the 4000, the answer is simply the best you can afford. If you can't afford a laser printer, then inkjet is the next best option. If you are looking for colour, keep in mind that the HP DeskJet 550C produces

better colours than the 500C because it uses four colours to print with – three colours plus black. The 500C uses just three colours (no black), which results in blacks coming out as a very dark green. **JW**

PS3 CHARS MISSING



SOFTWARE

I've bought *PageSetter 3* and am having difficulty in using it. If I use a large Compugraphic typeface in the bold style, a few characters print fine but most are printed as boxes with little letters in the bottom left-hand corner. This is most apparent printing in Density 4 with the EpsonQ driver.

Also, I cannot transfer any scanned graphics into the graphics editor, even though they are displayed okay on the *PageSetter 3* screen.

I hope to use other fonts with this program but don't seem to get much success. My CGFonts disk gets rejected, and it asks for PS3Fonts. I have been using

PageSetter II but was told that *PageSetter 3* would be much better.

My set-up is an Amiga 500 Plus with 2Mb of Chip memory, used with a Panasonic KXP-1123 printer and the DataScan Professional 2 scanner.

Barrie Leete
Minehead
Somerset

This "boxes being printed sometimes instead of characters" thing is a symptom Gold Disk programs display when memory is getting low. I know you've got 2Mb, but it says on the back of the *PageSetter 3* box that 1.5Mb is required, which will give you a hint that you haven't got much memory left to play with after running the program. You've discovered for yourself that if you print in a lower density, which requires less memory, the problem isn't so bad, so I hope you believe me when I tell you that more memory will solve the problem.

It is a fact of life that doing desktop publishing with high-quality

continued on page 53

FONT PAGE NEWS

PAGESETTER II FONT FOLLY



SOFTWARE

I found the tips you gave in *Amiga Shopper 25* regarding *PageSetter II* very useful, particularly the problem with CGFonts. The cover disk on that same issue provided two archives giving 13 CGFonts in all. I un-archived these fonts but I cannot get *PageSetter II* to recognise them. I notice that for each font supplied with *PageSetter II* that there are .atc, .lib, and .metric files, but the CGFonts on the cover disk have .dat, .lib, and .metric files. Do I need some type of conversion program to make a .atc file from a .dat file?

I thought a CGFont was a CGFont was a CGFont. What do I have to do to use your cover disk CGFonts with *PageSetter II*?

Melvyn Pearce
Wedges Mills
Staffordshire

The best thing to do is upgrade your *PageSetter*. The CGFonts on the cover disk will work with the current version, *PageSetter 3*, which is much faster and more stable than *PageSetter II* and has many new features.

If you insist on sticking with *PageSetter II*, then prepare yourself for a hunt around the PD libraries for a suite of programs by Adrian Aylward called *FMDTP*, which stands for *Font Manipulator for DTP*. Included with Version 3 of this package is a program called *MkAtc*, which creates .atc for *Professional Page 1.3* and *2.0* and *PageSetter II*.

My guess is that most libraries will say "Sorry, dunno what you're talking about", because *FMDTP* is now two years old, was never released into the Fish Disk collection and was spread mainly by bulletin boards and by Adrian himself, who has long since sold his Amiga. However, you

could try Seppi Evans at George Thompson Services ☎ 0707 391389. **JW**

HARD LEARNING



SOFTWARE

I have an Amiga 1200 with a 60Mb hard drive of three partitions: Workbench (30Mb), Programs (20Mb) and Data (10Mb). On the Programs partition I have *PageSetter 3* and would like to know how to alter the startup-sequence to take advantage of all the fonts on my Workbench partition.

My other problem is trying to get *Intellifont* to work. When I click on its icon I get the message "Bullet not correctly installed – please re-install (file fonts:_Bullet/lf.ss missing)".

I previously owned an Amiga 500 Plus with floppy drives only, and was able to alter the startup-sequence on a copy of my Workbench disk by going into the Shell, typing `Ed df0:s/startup-sequence` and adding the line

`Assign FONTS: AmigaFonts2.0:fonts defer` but this doesn't seem to work on my hard drive Workbench partition, even though I altered the line to read "AmigaFonts3.0:fonts".

Joan Gibson
Liverpool

When you installed *PageSetter 3* on to your hard disk, the single Compugraphic *Intellifont* that comes with it – (CG)Times – is installed by default into a directory named **CGFonts** in the **PageSetter3** directory. This is where *PageSetter 3* will always look for any Compugraphic fonts you want to use. It will also have installed a number of Amiga "bitmapped" fonts into the **Fonts** directory on your Workbench partition, along with a number of **fontname.metric** files that

PageSetter 3 requires in order to space characters correctly.

Although there is no mention of it in the manual, you should have got a piece of paper with *PageSetter 3* telling you about the *FontManager* program. This instructs you that it saves certain files in the **CGFonts**: volume after converting a font from PostScript Type 1 format. To create this volume on a hard drive you should add to your **s:user-startup** file a line like this:

Assign CGFonts: Programs:☛
PageSetter3/CGFonts



CAUTION

(Note that you should *not* add this to the **s:startup-sequence** file – you should *never* touch that.)

The majority of the fonts in the **Fonts** directory on your Workbench partition are Amiga bitmapped fonts. Although *PageSetter 3* will work with these, they will print out very jagged because they are low-quality, low-resolution fonts intended primarily for screen display purposes. If you want higher-quality fonts for use in *PageSetter 3*, check the adverts in this issue for the many inexpensive PD and shareware collections that are available.

Your problem with the *Intellifont* program is literally staring you in the face. A certain file that *Intellifont* requires in order to function correctly – namely **lf.ss** – is missing from the **Fonts:_Bullet** directory. Put your **AmigaFonts 3.0** disk in the floppy drive, open a Shell window and type:

`Copy AmigaFonts3.0: Fonts: all`

This will copy the entire contents of the **AmigaFonts 3.0** disk into the **Fonts** directory on your Workbench partition. If you run *Intellifont* now you'll find it will work perfectly. **JW**

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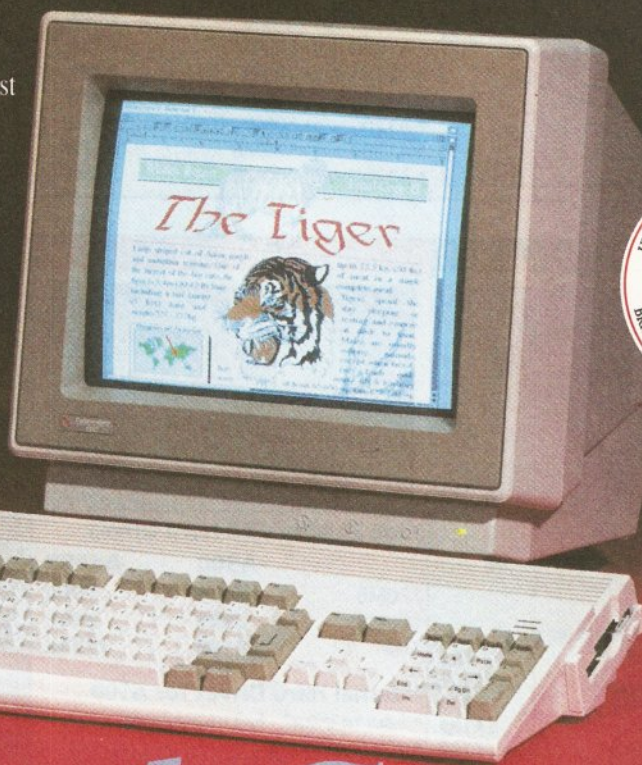
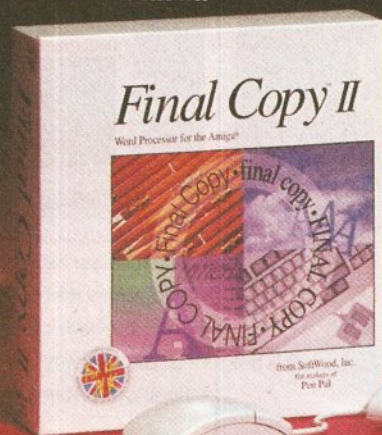
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A photograph of two Commodore 64 computers, one with a floppy disk drive and one without, along with several floppy disks and a CD-ROM.

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A photograph of a vintage Commodore 64 computer system. The main unit is a light-colored plastic case with a floppy disk drive on top. A keyboard is connected to the front of the unit. The system is shown from a slightly elevated angle.

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continued from page 48

scalable fonts, and printing the results at high resolutions (densities), requires lots of memory. No matter how cheap-and-cheerful the DTP program (or word processor for that matter), scalable typefaces printed in large sizes at high resolutions requires lots of memory. You may think 2Mb is a lot, but in DTP terms, unfortunately, it isn't even a sensible bare minimum. Lack of memory is also why you can't send graphics to the graphics editor.

As for your **CGFonts** disk, when you boot from the *PageSetter 3* disk the **CGFonts**: logical device gets assigned (in the startup-sequence) to "**PS3Fonts:CGFonts**". If you want to use another disk of fonts, make sure it is called **CGFonts** and then simply remove the line from the startup-sequence that assigns **CGFonts**.

Keep in mind that *PageSetter 3* handles Compugraphic fonts in a very different way from *PageSetter II*. There are some new "system" files to do with fonts that have to be in the **CGFonts**: device (or on the disk called **CGFonts**). The *PageSetter 3* floppy disk installation program includes an option to upgrade your old **CGFonts** disks. **JW**

WHERE'S MY SCALABLE FONTS?



I have recently bought a Hewlett-Packard DeskJet 500C and after following your advice to obtain the best printer driver available I am settling down to using it with the *Excellence! 3.0* word processor. I have an Amiga 500 Plus with *Workbench 2.04* and a GVP 52Mb hard drive.

Am I correct in thinking that Workbench 2.04 is supposed to support scalable fonts? Is it through the Fountain program on the fonts disk, or is this misinformation again? I would like to utilise scalable fonts to improve the presentation of my documents, which currently feature some quite jagged text. Is this as good as it gets, or do I have to buy specific software to get this facility?
Pierre Weinzeig
Horfield
Bristol

For *Workbench 2.04* to be able to use scalable fonts you need to copy the "**diskfont.library**" file from the **Libs** directory on the **AmigaFonts** disk into the **LIBS**: directory on your hard disk. Then copy the entire **Fonts** directory from the **AmigaFonts** disk to your **FONTS**: directory:

```
Copy AmigaFonts2.0:Libs/☛
diskfont.library to LIBS:
```

```
Copy AmigaFonts2.0:Fonts ▼☛
to FONTS: all
```

After re-booting (in order to re-initialise the "**diskfont.library**") you can now use the *Fountain* program to create specific-sized bitmap versions of the three outline typefaces provided with *Workbench 2.04*. Press the [Help] key after running *Fountain* for more details about what *Fountain* does and how to use it. *Fountain* is useful mainly for creating specific bitmap fonts for use by the system in requesters, title bars and so on, so that text doesn't have to be scaled on the fly all the time.

Fountain won't help you get less jagged text output from *Excellence! 3.0*. While that program imports

scalable fonts, it doesn't output them as scalable fonts, it outputs them as bitmap fonts. What *Excellence! 3.0* prints is exactly what is on the screen – a screen dump if you like – at the screen's resolution, which is about 75 dots per inch. In other words, despite the claims in the advert and on the packaging, *Excellence! 3.0* does not "support" scalable fonts, it just imports them.

Wordworth is the only Amiga word processor that currently supports the *Workbench* "Intellifont" scalable fonts properly – by "properly" I mean it is able to print them at the highest resolution supported by your printer.

Final Copy II also supports scalable fonts properly, but uses its own proprietary font format, not the standard *Workbench* Intellifont format. Another not-too-expensive alternative is the new *PageSetter 3* DTP package, which also supports scalable fonts properly, and comes with "hotlinked" text and bitmap (graphics) editors. (For the full in-depth review, see *Amiga Shopper 28* – if you missed that, see page 108 for the AS back issue service.) **JW**

PAGESTREAM!



For some months now I've had an ongoing problem with *PageStream*. Now that I've upgraded to version 2.2, the keyboard has decided to go native. Gone are the pound sterling and double quotes symbols, and in have come # and @.

I accommodated this niggling situation until today, day two with my new Amiga 1200. What was to have been a one-hour session has seen a whole day go by while I have tried everything I could to restore

the English keypad. Splashing about in the CLI, I eventually managed to delete the **usa1** file from **devs/keymaps** and copy the old **keymaps/gb** file from the *PageStream 2.1* disk.

Great! There it was: **gb 1,328** —rwed. So I shut everything down, booted the *PageStream 2.2* disk and confidently typed #.

You get the picture? Please save me from evermore having to type **Ctrl-D-163** to get a £ symbol.
Peter Gibb
Winshill
Derbyshire

The startup-sequence on my *PageStream 2.2* disk looks like this:

```
PageStream:system/setmap gb
loadwb
endcli
```

Without that first line the keymap will default to the internal Amiga keymap, which is a USA one. So make sure the **gb** file is in the **devs/keymaps** drawer on the *PageStream* boot disk, and then make sure the startup-sequence file in the **S** drawer on the *PageStream* disk looks like the one listed above.

From a technical point of view this is a really naff startup-sequence, especially for the A1200; it is the absolute bare minimum to load *Workbench*. A much better idea would be to boot from your *Workbench 3.0* disk, and when *Workbench* has loaded simply insert your *PageStream* disk into an external floppy drive and double-click on the *PageStream* program icon. But if you've only got one floppy drive I guess it's less complicated to boot from the *PageStream* disk. **JW** **AS**

LISTINGS CORRECTIONS



Because of technical problems with our image-setting equipment, some of the program listings in *Amiga Shopper 28* and *29* were printed with their endings missing. We've printed the last few lines for each of the offending programs below. Sorry for the inconvenience.

ISSUE 28 C PROGRAMMING

The program in the box headed **ADDRESS_BOOK.C** on page 87 should have the following at the end:

```
}
And add the following to the end of the program in
page 88's ADDRESS_FUNCTIONS.C box:
}
/* All done, quit to menu */
return;
```

AMIGADOS

The listing in the box on page 102 should have this as its final line:

```
7. Set Arg(Argnum) {Arg}
```

ISSUE 29 READER LISTINGS

Chris Cox's **AS Clock** program on page 63 also fell victim to our image-setting gremlin. Add the following to the end:

```
dc.l 0 ; No check marks
dc.l 0 ; Title pointer
dc.l 0 ; No screen
dc.l 0 ; No bitmap
dc.w 0 ; Min X and Y sizes
dc.w 0
dc.w 0
dc.w 0
dc.w WORKBENCH ;Workbench window
```

```
Window_Title: dc.b "00:00:00",0
even
Window_Title_SIZEOF equ *-Window_Title-2
Scrn_Title: dc.b "Amiga Shopper ▼☛"
Clock by Chris Cox in 1993"m
```

CODE CLINIC

The listing in *Code Clinic*, page 47, should have this appended to it:

```
;
end
```

AMOS

And finally (phew), AMOS. The last printed line should have the following added to it, after the comma:

```
$EEE, $FFF
```

And then add the final line:

```
End Proc
```


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Power to your Base

Amivision's PowerBase has migrated from its modest licenseware roots to compete on the commercial stage. Mark Smiddy asks: given what it's up against, is it good enough?

Databases are probably the easiest applications to baffle a first time user with – the list of possible uses is endless. Basic database applications are fairly simple to construct – so much so that many beginner's BASIC tutorials give simple instructions on exactly that.

Extending the basic principle to something usable in the field is rather more difficult, and this has guaranteed a decent trickle of such applications into the commercial sector over the years. Such programs can be roughly divided into two groups by functionality: *flat-files* are uncomplicated to use and suited to a large number of simple applications;

relational databases are a more recent idea and are primarily used when very large amounts of data are being processed.

HARD INSTALLATIONS...

PowerBase is a memory-based flat-file, which means it is intended for simple applications where comparatively small amounts of data are being handled. (The exact amount of information in any data file is defined by what is being stored. Around 1,500 names, addresses and telephone numbers is typical, although specifications claim up to 10,000.)

The most instantly notable feature of *PowerBase* is its

Workbench 2 look-and-feel. The program gives its AMOS origins away because it will not run in some of the enhanced screen modes – make sure you start this one in straightforward PAL. *PowerBase* is not automatically NTSC-aware and AMOS does not like "Productivity" mode. If that sounds bad, remember that it is

a budget offering, so you will not have to mortgage Aunt Agnes to own it; as such, anyone can forgive that little inappropriate quirk.

GETTING STARTED

Operation of any database application goes through three distinct stages: design, data input and data output. Analysis of a new piece of software – especially one aimed at beginners – starts with putting the manual to one side, leaping in with both feet, trying to swim. Result? *PowerBase* is a breeze to use – the VCR-type control panel has been borrowed from *Superbase* and is very simple to learn. Interestingly, even in such a basic application, database files can be password-protected on three levels, none of them preventing read access.

You lay out a new file from a custom screen limiting you to a maximum of 20 fields per record. More would have been nice, but simple databases rarely need more than ten anyway. Supported field types are: Text (60 characters max); Numeric; Date; Time; Percentage; Logical (T/F/Y/N); Calculation (*/+/- only) and External (ASCII text or IFF).

The design of this section strays a little from the norm in that it is possible to change the name of any field at any time. This makes it

Setting up your field names is simple in *PowerBase* – like other functions, it's all made easy for you.

beginner-friendly (beginners invariably use meaningless fieldnames like NAME1) but lacks the rigidity of the conventional approach.

This has a side effect later in that fields are referred to by name on displays, but field number – F1...20 – in calculations. Is this a bad practice? It's like comparing BASIC to C – who cares so long as it does

The Status screen gives you a handy statistical overview of your data and general settings.

the job adequately? Just as hardened programmers sneer at BASIC, so database experts will scoff at this aspect. It's not a problem, but will make the upgrade path difficult if Amivision ever decide to make the program free-form (field limit set by RAM).

NEED INPUT...

Traditionally this is the dull bit, especially if you have to sit down at a terminal and enter huge amounts

BUYING A DATABASE

Buying any piece of professional software is a difficult decision – good ones are rarely cheap and you are not entitled to your money back if it doesn't do what you wanted!

- A database is a tool, not a toy. Ask yourself, do I have something else I can do the job with? A good spreadsheet (and even some word processors) may have all the features you need.
- What do you want to catalogue – are there a lot of items and what benefits would a database bring you? It's all very well keeping a database of compact disks or videos, but how often would you bother with it?
- How many records are you likely to store and how many fields will you need? Small databases (up to

- a few hundred records with up to ten fields) can be held in memory; larger ones need to be accessed from disk. Are you likely to store more than 10,000 records?
- Do you really need a mail-merge? If you only write the odd letter, such a feature is superfluous.
- Do you need statistical analysis of the data? If you're at college studying a science or in business, this could come in handy, but a database of addresses doesn't need anything fancy.
- What about relational facilities? Relational databases are powerful, but they can be tricky to use. Typically, they find uses where records share a large amount of common data and this is more for business than home applications.

POWERBASE OR, ER, POWERBASE?

Software naming conventions have always been a favourite bugbear of mine: give it a name that sounds good – who cares if it's accurate. UGA's *PowerBase* (NOT REVIEWED HERE) is typically like calling a goldfinch "PowerBird". UGA *PowerBase 1.0* is anything but

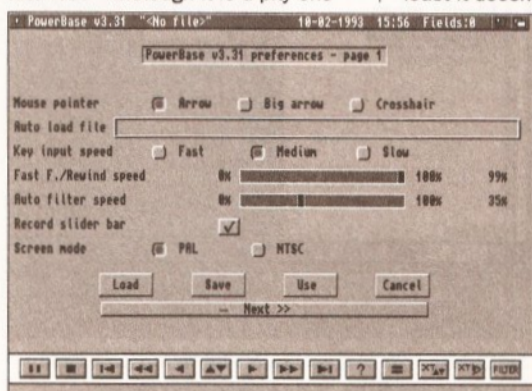
what it says – this weak flat file has a nice-looking front end and little else. *PowerBase 3.34*, subject of this review, is by Steven Rennocks (Amivision Software) and has no connection with the UGA offering except in name. Make sure you get the right one!

of data. *PowerBase* has its good and bad points here. On the up side, it has a very straightforward default entry screen and a simple, but effective, object-oriented screen designer. Nice to see that any number of forms can be saved for later use – although it is a pity one

autosave kicks in.

File handling is one area where *PowerBase* does fall down a little. Two problems come to mind: first, it is possible to load an "alien" file such as an application, text or layout file without a word of complaint – at least it doesn't crash. More worrying

is the lack of an overwrite warning – it is quite possible to overwrite the wrong database without thinking. Given the price and relative complexity, these cavils are not severe – but worth consideration; and I feel sure Amivision could put them right in a matter of hours.



Setting preferences is as straightforward as just about every other procedure you can tackle in *PowerBase*.

cannot be elected as the default for any database.

There are a number of features to expand the size of the database by adding blank records in batches and copying existing ones, but... it's all done in memory, so forget to hit **Save**, the Amiga goes guru – and your work vanishes into data heaven.

The program does address this problem with optional automatic timed-saves (to dump the entire "core" to disk every x minutes). This can be more of a hazard than a benefit: since there is no warning, it is quite possible to wipe a load of records by mistake and lose them for good! Timed-saves slow things down too – it's a real bind when you're half-way through a search and the

GETTING OUTPUT

PowerBase, like most low-cost databases, does not maintain a separate index file in which records are sorted by some "key" – say Surname or Date. The entire file has to be sorted instead from time to time. The sort routine is fairly quick, but nothing special. Indexes give much more flexibility and it would be nice to see them in a future revision.

There are comprehensive search and filtering facilities, although they are rather linear. You can locate any record by filling in the blanks and hitting **search**. This only locates the first matching record though and you may have to sort the base to get things in expected order.

More useful is the output filtering system. This allows

a group of records to be processed and sent to some output device – printer, screen or file.

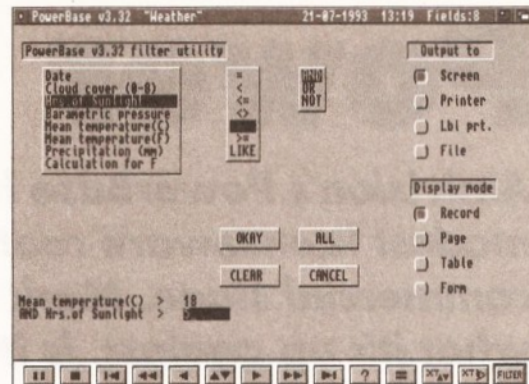
Several views are available from this option and the field list can be restricted too. Filter facilities enable users to specify fields according to their contents (like an automatic search). Wildcards are supported, as are comparisons for (respectively) text, dates and numeric values. A feature of *PowerBase* is that a filter is removed once the operation has been completed. Some systems keep a filter active all the time until it is switched off. While this latter is more powerful, beginners may find it confusing:

Beginner: "Where have all my records gone?"

Expert: "Ah yes, they've all been filtered out!"

CONCLUSION

PowerBase is an unpretentious application that will win a lot of friends. It's fast, inexpensive, and



Filtering your data to find the precise information you need is easy (see also the "Beginners" box below).

simple to use without being too simplistic; the user-interface is clear, friendly and good for new users. Don't be misled by over-enthusiastic praise from some quarters though: it has some shortcomings (notably, limited storage and no indexes) – but you could do a lot worse. Demanding and advanced users should give it a miss and dig deeper for something more powerful and up-market; beginners need look no further. **AS**

SHOPPING LIST

PowerBase 3.34£14.95
By Steven Rennocks
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 Great Wyley
 West Midlands WS6 6NE
 ☎ 0922 414731

CHECKOUT POWERBASE 3.34

Features

●●●●●○○○○○
 Everything the first-time user could want, with a few extras.

Documentation

●●●○○○○○○○
 Amivision could do with something more professional here...

Ease of Use

●●●●●●●○○○
 Breeze through it without the manual – a very intuitive interface

Speed

●●●●●●●○○○
 It's memory based and will never have to do anything too demanding.

Versatility

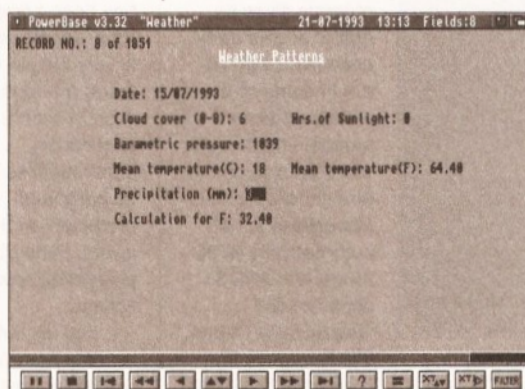
●●●●●●●○○○
 More than you might expect for the price – but it's not *Superbase*.

Value for Money

●●●●●●●○○○
 Cheap, cheap, cheap! What more do you want!

Overall rating

●●●●●●●○○○
 An unpretentious, entry-level database with a lot to offer occasional users.



Editing information is effortless, and the VCR-style control panel makes it easy to move around records.

BEGINNERS BEGINNERS START HERE BEGINNERS

What is a database?

A database is a collection of items of related information – records. An address book, for instance, is a database, as is a telephone directory. Confusingly, the term is applied to both the file of data entries (records) and the computer software that manages them.

Do I need one?

Databases are a classic computer application. They are a convenient way to store large amounts of information and retrieve it quickly at some future time – anything from telephone numbers to medical records and weather patterns. The data could be organised and

accessed in various ways. For instance, telephone numbers might be listed by name (first or last) or by number. Records can be found either by name (to get the number) or by number (to get the name, for itemised billing).

Weather patterns are more tricky. Say you need to know which days last year there was less than an hour of sunshine and more than two inches of rainfall. That would mean searching out both the sunshine and rainfall figures for 365 separate days, then collating the two sets of records – maybe a few hours' work. A computer like your Amiga could do the job in less time than it takes to devise the problem.

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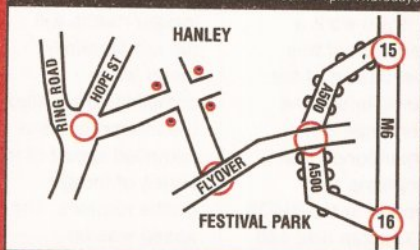
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Get your code cracking

The AMOS Pro Compiler has arrived, offering AMOS programmers an easy means of generating faster, more efficient programs. Gus Chandler tools up for speed.

AMOS Pro users will be pleased to learn that the AMOS Professional Compiler is now available from Europress at a reasonable £34.99. Written by François Lionet (the creator of the AMOS language), the compiler turns AMOS programs into their machine code equivalent – code which will run much faster than its interpreted version can.

Owners of AMOS and Easy AMOS can also consider adding the compiler to their software armoury – it's fully compatible with both these subsets of the language – but would be perhaps better advised to put the money towards moving up to the full AMOS Pro language before acquiring a compiler.

An extended development from the original AMOS Compiler, this package will now handle all of the huge command set that is provided by the extremely versatile AMOS Pro language.

If you're an AMOS Pro user then the first thing you'll need to do is update your copy of AMOS Pro to the newly available version 2.0. A disk containing the upgrade is supplied with the compiler. This isn't an optional upgrade – you'll have to change over to this revised version of AMOS Pro if you want to install the compiler.

Unlike the AMOS Pro manual – which is a rather weighty and comprehensive tome – the user guide supplied with the compiler is a brief 50 pages. That's not to say that the instructions given aren't adequate for the purpose – it's very easy to use the compiler once it is installed. Many users will find that they don't even need to read some sections of the instructions. They'll find that they can compile a program simply by selecting the "Compiler" option that now exists in the user menu in AMOS Pro's Editor window. The manual explains the install

procedure for hard disk owners and also gives advice to those seeking to run the package from floppies. Full details are also provided on how to invoke the compiler from the Shell and the various compile-time parameters that can be set by the user – which I'll discuss presently.

Where the manual does rather fall down is that it dedicates just three and a half pages to what it calls "troubleshooting". The reason for this lies perhaps in the fact that the AMOS Pro Compiler itself generates only a limited vocabulary

"clickable buttons". This enables you to alter and save the package's default settings.

As well as being able to invoke the compiler using the GUI of the "Compiler Shell", you can, rather confusingly, also utilise the compiler directly from the Shell – this time the AmigaDOS variety. This is done with the **APCmp** command. This command can be used with a range of optional parameters. These include options for selecting the environment under which the executable code will run – Workbench, the Shell, or the AMOS Editor. You can specify whether the compiled code should include libraries and where these are to be found. A "Long" parameter enables large programs (those with control structures that exceed 32K in length) to be compiled.

A batch option is available, which will prove useful to those with a directory full of programs that they want compiled.

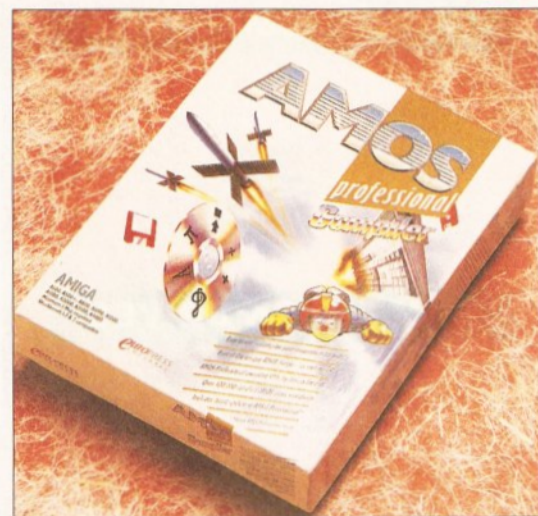
HOW FAST IS IT THEN?

To a point that's as easy a question to answer as "how long is a piece of string?" The speed ratio between the compiled version of a program and its interpreted equivalent is primarily dependant on what sort of operations are most frequently used in the code. For example, programs that use a lot of integer maths will run substantially faster when compiled. We tested the interpreted and compiled speed of a series of integer maths routines. The speed was on average enhanced ninefold.

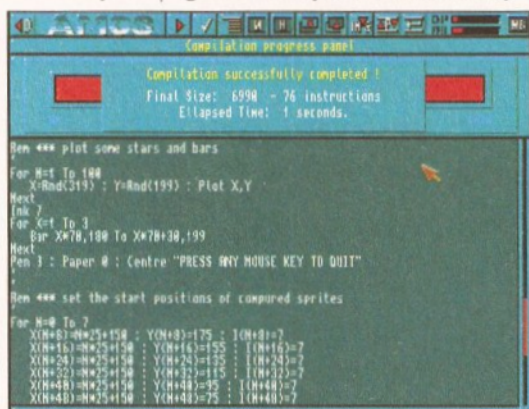
Compiled programs that require lots of floating point calculations will also be significantly accelerated in comparison to their interpreted counterparts. The speed advantage is not as substantial as for integer

handling though – we recorded a fourfold performance increase.

If however you examine the speed increases with other operations you'll see that the results aren't as impressive. As an example we tested a simple program, consisting of just a straightforward **FOR – NEXT** loop construct and containing a **PRINT** statement that would output a string of characters to the screen. The difference between the speed of this program run under the interpreter and then run as a compiled version was negligible – less than 1%. There's a reason for this. Printing characters to the screen is handled by a number of machine code routines that are held in the operating system libraries. Both the interpreted program and its compiled equivalent call these routines to handle printing – and so this aspect of each version's performance will be the same. The small speed advantage the compiled



Inside this box are just three disks, a 50-page user manual and a cardboard filler that occupies two-thirds of the space. Keep cutting down the forests, boys.



Once you call the compiler you won't have to wait very long for results – for all but the longest programs, the compilation process takes just a few seconds.

of error messages – which at times can be more infuriating than helpful.

WHAT DOES IT DO?

In essence, a compiler takes a program and from it produces another program which is functionally identical to the original. The difference lies in the fact that this new program – the object program – is in machine code. This new version will run much more speedily than its interpreted parent. If you want a more detailed explanation of this process, see our discussion of the inner workings of compilers in the "beginners" panel on page 59.

We've already mentioned that you can compile programs by selecting a menu option in the AMOS Pro Editor window. You can also call up the compile in other ways. There's an icon supplied called the "Compiler Shell" – double-clicking on it brings up a GUI (that's a Graphical User Interface) from which all the features of the compiler package can be set via a series of menus and



The Compiler Shell front panel. From here a series of menus enables you to alter the compiler default settings to your own tastes and requirements.

code achieves is because the loop construct is implemented more efficiently than the interpreted program can manage. If we remove the **PRINT** command and just compare the speed differential for the "empty" loop there's a change.



One of the Compiler Shell menus. This one enables you to select the way in which sounds will be handled.

Now the compiled version runs some 50% faster. That's because in the first example most of the processing time was occupied with executing the **PRINT** command, not with performing the loop instruction.

There are some other sorts of operations where the speed at which the code runs is predominantly influenced not by whether it is interpreted or compiled, but by factors external to the processor. Input/output operations are a classic example of this. Take disk operations. The limiting factor when writing data to a disk drive or reading data from one is not the speed at which the instructions can be performed by the Amiga's processor. Instead, the speed of programs which rely heavily on disk access is constrained by both the speed at which data can be located on the disk and then the rate at which data is transferred to or from the drive.

PROBLEMS

Most sophisticated software packages usually have to go through several revisions before all of the inevitable bugs are removed. The AMOS Pro Compiler will be no exception. For example, version 2.00, reviewed here, has serious problems with double-precision maths. In some cases it gets its sums wrong – which it has to be said is a pretty disastrous failing. Luckily, this won't affect the great majority of the compiler's users – but only because few people write code that makes use of AMOS's double-precision features.

We should also report that we encountered some other problems in testing the compiler. It happily performed the compilation process on all the longer programs that we threw at it, but the compiled versions of two of these proved unstable. In both cases they "crashed out" unexpectedly. Naturally, we examined carefully the source code for both of these compiler recalcitrant routines, but couldn't identify anything that on the surface should have caused the compiler problems. It's in circumstances like these that the paucity of diagnostic messages generated by the compiler shows. Halting the task with the message "Program finished at line *n*" – the text generated when each program

stopped – doesn't help greatly in tracking down the possible cause of the problem.

We contacted Europress to discuss these few shortcomings. They assure us that they are aware of the teething troubles of

the package and welcome reports of any problems. Details of these are passed on to the author. Free update disks will be made available to compiler owners to fix reported bugs.

All in all the AMOS Pro Compiler is a high performance package that certainly delivers value for money. There are a couple of bugs – but that's almost inevitable with an early version of such an advanced piece of software. Given Europress's strong track record in supporting AMOS there's no doubt that these problems will be quickly resolved.

If you're serious about developing applications in the AMOS language then there's really no way you can avoid splashing out a very reasonable 35 quid for the compiler – it's a must.

AS

SHOPPING LIST

AMOS Professional Compiler £34.99

From: Europress Software
Europa House,
Adlington Park,
Macclesfield SK10 4NP
☎ 0625 859333

CHECKOUT AMOS COMPILER

Features

● ● ● ● ● ● ● ● ● ●
The GUI gives access to a wide range of parameters.

Documentation

● ● ● ● ● ● ● ● ● ●
Adequate, but disappointingly brief. A longer chapter on troubleshooting would have been welcome.

Ease of Use

● ● ● ● ● ● ● ● ● ●
You can compile programs with a single menu command.

Performance

● ● ● ● ● ● ● ● ● ●
Very good. The compiler will substantially enhance the speed of your programs.

Value for Money

● ● ● ● ● ● ● ● ● ●
Excellent. A £35 price tag is very reasonable.

Overall rating

● ● ● ● ● ● ● ● ● ●
A powerful addition to the AMOS suite.

BEGINNERS BEGINNERS START HERE BEGINNERS

Not sure what a compiler is, or what jargon such as "tokens", "source code" or "object code" actually means? Read on and all will become clear.

We're going to explain this in several stages. First we'll look at what happens to a program line when it is typed into the interpreter's editor. Then we'll see how the interpreter deals with the program when you want to run it. Then we'll go on to see now a compiler functions in a different manner – examining the whole program and then converting it into its machine code equivalent, which can then be run directly on the machine without any further need to invoke the interpreter or compiler packages.

When you enter a program line into the AMOS editor and press [Return], the line is turned into what is known as its *tokenised* form, rather than being stored in ASCII – the conventional format for text. These tokens are numerical codes that represent the different keywords, variables and parameters contained in the AMOS Pro instruction set. There are two reasons for saving your program in this way. First, it means that the interpreter can run more quickly because it doesn't have to "look up" items such as keywords and variables in its internal tables each time – the token code provides a direct reference to them. A secondary advantage is that tokenised files occupy significantly less space than their ASCII equivalents.

So how does the interpreter process this tokenised version of a program? Once you select the run option from the menu, the interpreter starts to execute your program. It does this by examining your instructions in sequence. Each time a line has to be executed the interpreter takes the tokenised version and translates this into machine code. It then executes these machine code instructions before moving on to the next line. What this actually means is that the interpreter has to perform this process on each line each time it comes up for processing – and this holds true whether the program needs to execute a line once or a hundred thousand times. You should be able to see that therefore a significant amount of time will be absorbed by the interpreter having to repeat this translation process on every occasion that a line has to be executed.

Don't get the impression from all this that an interpreter isn't an

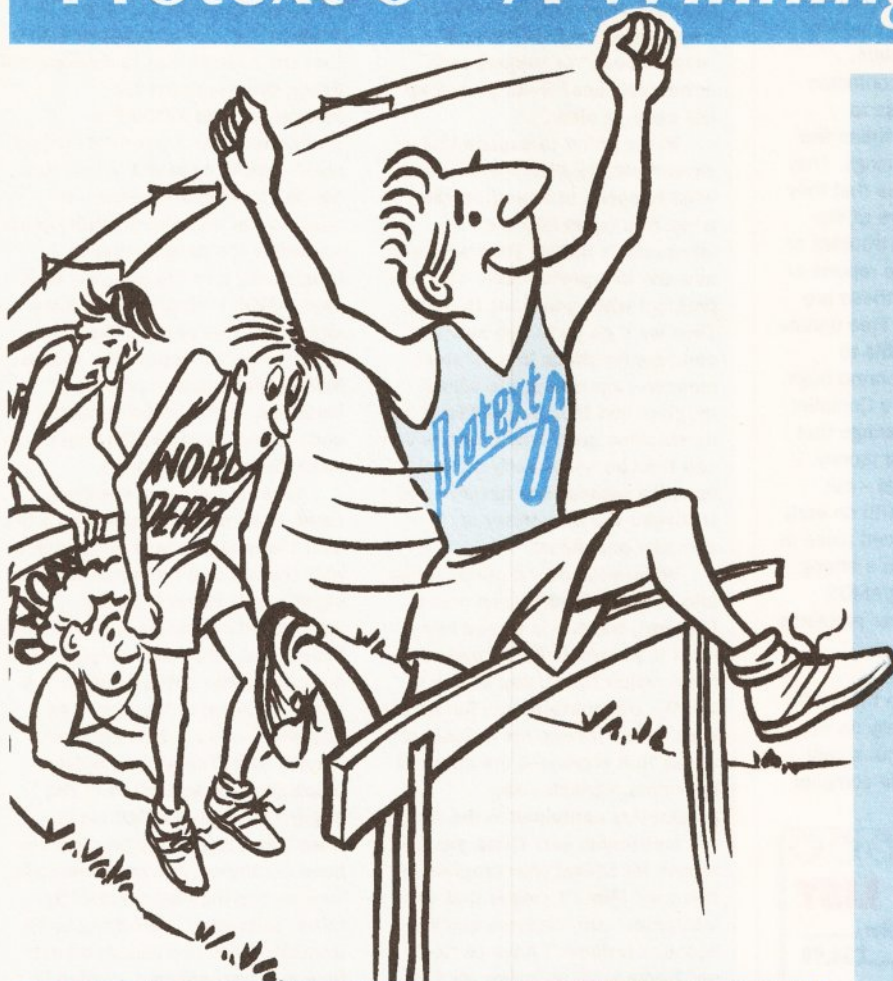
invaluable tool. For all but the most trivial of programs you'll find that the easiest way to develop and debug them is under the interpreter. The AMOS Pro interpreter offers a powerful "single-step" facility to assist in just this. Single-stepping a program – in conjunction with the monitor option – enables the programmer to temporarily halt the program after each AMOS instruction has been executed. This permits the programmer to inspect the values held in the program's different variables, and so check that the code is performing in the way it has been designed to perform.

So what happens when you come to compile a program? To the user the most obvious difference is that the compiled program will run significantly faster than its interpreted counterpart. Why? Well, in essence, what the compiler does is examine the entire program – a process known in the jargon as "parsing" – and output another version of it. This is a complete machine code equivalent of the original tokenised AMOS code. Once this compilation process has been performed, the machine code version can then be run directly, rather than each line having to be translated and re-translated each time it is encountered – which is how the interpreter functions.

Once you've compiled a program you don't need to have the compiler resident on the machine when you come to use the program. However, compiled programs frequently need to access what are called libraries. These are collections of machine code routines that have been produced for handling frequently-used system functions – such as writing a character to the screen. In a high-level language – like AMOS Pro – this appears as just a simple command, but at the machine code level it's actually quite a complicated operation that requires many instructions. Rather than insert this whole block of instructions in the compiled program whenever a print operation is encountered, the compiler will instead insert a call to the appropriate library routine.

There are a number of terms used to describe interpreted and compiled programs. "Source code" is the name given to the original program text, and this is the sort of file that an interpreter will operate on. "Object code" is the output file that is generated by the compiler – one which can be directly run by the system without the need for the compiler software to be resident.

Protext 6 - A Winning Performance



Some highlights of Protext 6

Styles

Styles let you make flexible use of printer fonts and effects. You can change a font throughout a document with a single operation.

Document Layout

An easy to use dialogue lets you lay out your page precisely as you want using inches or cm for the page length, margins and tabs.

Graphics

Graphic images may be imported into a Protext document. Supports IMG, PCX, GIF and IFF. You can select any resolution and scale the image. Dot matrix, inkjet and laser printers.

Printers

Protext's unrivalled understanding of printers gives you the highest quality printing at the highest possible speed. Using a printer's built in fonts enables Protext to print pages in seconds rather than the minutes taken by some programs.

Protext is still the fastest

- Fastest at editing.
- Fastest at spell checking.
- Fastest at printing.

Protext still has the best printer support

- Hundreds of printers supported
- PostScript driver included **NEW**
- Scalable font support **NEW**
- Colour printing **NEW**
- Automatic line spacing **NEW**

Protext still has the most advanced features including:

- Styles **NEW**
- Graphics import **NEW**
- Spelling checker
- Thesaurus
- Hyphenation
- Document analysis
- Glossary **NEW**
- Footnotes
- Widows and orphans
- Index and contents
- Addition of numbers
- File sorting
- Mail merge
- Programming language
- Macro editor **NEW**
- Dictionary editor **NEW**

WorkBench New Look

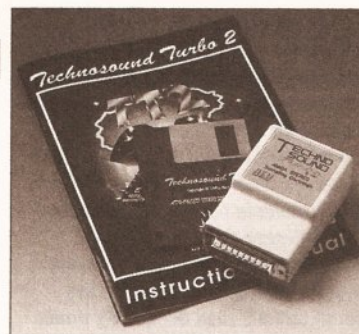
- New WB menus, requesters, gadgets
- Screen requester to select mode **NEW**
- ARexx interface **NEW**

The list price of Protext 6 is £152.75 but you can order direct today for just **£99** inclusive. For any Amiga with 1Mb memory and WB 2.0 or later. Phone us today and we will send you a usable demo version and a full specification, absolutely free. Upgrade offers available - please call us for the current price.



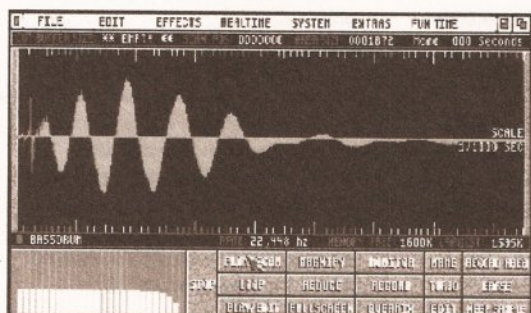
Turbo sampler

If you're looking for a sampling package on the Amiga, you're already spoilt for choice. Tim Tucker fires up the latest contender, Technosound Turbo 2.



There have been many programs released which take advantage of the Amiga's internal sound capabilities. They usually take the form of combination software and hardware samplers, which enable you to make digital recordings of audio, edit the waveforms, and save them to disk for use in other programs. Technosound Turbo is one of the more popular samplers for the Amiga, thanks mainly to its price and ease of use, and now New Dimensions have released an upgraded and improved version in the shape of Technosound Turbo 2.

For your 50 quid you get a hardware sampling cartridge which plugs into the parallel port on the Amiga, and a disk containing the sampling software. The sampling cartridge has two RCA stereo phono plug inputs, the type normally found on home hi-fi's, and you're also supplied with a stereo phono-to-mini-jack audio lead for connecting the sampler to a sound source. It is recommended that you use the headphone output from a Walkman or portable CD player as a source for sampling, but you can connect it up to an amplifier with the use of an adaptor, available from most high



The control system on Technosound Turbo 2 is really easy to get used to, with buttons and menus on board.

street Tandy's stores. You can also buy the sampling software on its own – it is compatible with most hardware samplers available for the Amiga.

Load up the program and, after a particularly attractive title screen, you find yourself faced with the program's main screen. Users of original Technosound Turbo won't recognise this successor – the whole thing has been completely redesigned, and much improved too. The screen doesn't look at all cluttered or confusing, and all the commands and controls are found in logical and convenient places. The most commonly used controls, such as **Record**, **Play Sample** and **Loop**, are accessed by clicking on buttons in the panel beneath the waveform display, while the edit commands, effects, file handling and so on are in pull-down menus. It's obvious that a lot of thought has gone into how the controls are laid out, and it doesn't take long to get used to where everything is and feel comfortable working with the program.

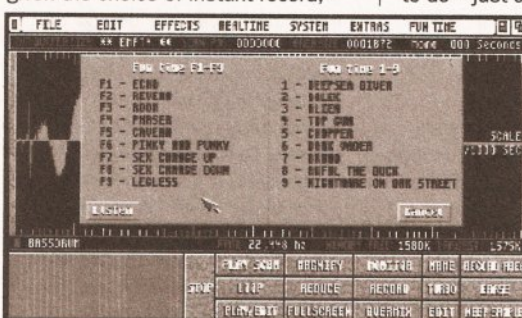
You do all the recording and editing of samples from the main screen, and before you record a sound you can monitor the input to hear how the sample will come out. If the sound quality's not up to your requirements, you can always

increase the resolution. The maximum sampling rate is 50,669Hz, although the higher rates are only possible on an Amiga with a 68020 processor or above (for example, the A1200 and A3000). However, sample rates of 20kHz are more than adequate

for most applications, and the sound quality on this package is such that you can achieve very good results at around 12kHz. This is important, because the lower the sampling resolution, the less memory the sample takes up, and it's often important to

be able to store plenty of samples in memory.

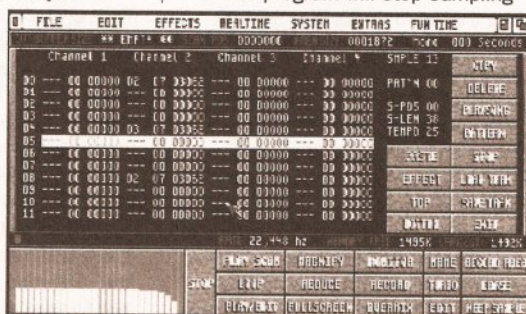
Once you've checked the quality and set the input level correctly, you're ready to take a sample. This couldn't be simpler: just click on **Record** in the control panel. You're given the choice of instant record,



It's fun time! In fact the Fun Time menu is not as trivial as it sounds – there are some useful effects.

which starts as soon as you click the button, or **Record + Vox**, which waits until it gets a signal before it starts sampling. This latter option is useful when you don't want a gap before the sample, and can save you a lot of time looking for the exact start point. However, it does tend to clip the beginning of the sample slightly, because of the delay between it recognising that a sound is being played and snapping into action.

The program will stop sampling



Built-in trackers are pretty standard in Amiga samplers these days, and the one here certainly does the job.

when it's reached the limits of the Amiga's memory or when you press the right mouse button, whichever comes sooner. As soon as you've finished recording, the sample is displayed in the waveform edit window above the control panel, ready for editing. This is where the real power of the software comes in, because you can use the various tools in the program to make extensive changes to the sample.

The great thing about this software is that it makes the whole editing process a lot easier through its easy-to-use and intuitive control system. To hear the samples and mark out editing regions you place two pointers, left and right, on the waveform display. This is very easy to do – just click with the left and

right mouse buttons respectively – and it makes it very quick to isolate parts of the sample for editing.

The most obvious editing commands are of the cut, copy and paste variety. These enable you to trim the sample of all the sounds you don't

need and just work with the bit you wanted. However, there's a lot more you can do with these controls to make more creative samples, such as combine two or more samples together, insert part of one sample into the middle of another, and even mix one sample over another so that they play simultaneously.

All this manipulation makes for a great deal of power over the sounds you sample, but as if that wasn't enough, you can also add special effects. Some of the effects are variable, which enables you to stipulate certain parameters, such as the rate of Delay in milliseconds. The standard of the effects is reasonably high, but to give the sound the desired effect, the program re-samples the original, which results in a lower quality sample. While it will never take the place of a dedicated effects unit, the results are certainly usable, and it's a great feature to have on board.

Of course you can save samples

HD USERS

Naturally enough, the Technosound Turbo 2 software can be installed on hard drive, but there's another feature of the program which hard drive users will welcome. This is the ability to record samples directly to hard disk, which goes a long way towards overcoming the memory restrictions on samples. As a result, with enough hard disk space, you can create huge samples, and even make whole digital recordings. The quality of the samples would depend on your system – most notably the processor speed, Kickstart version and hard disk access times – but New Dimensions reckon that an A500 running Kickstart 1.3 and linked to an A590 hard drive could sustain a sample rate of 12kHz, and an A1200 with a standard IDE hard drive could sample up to 40kHz.

to disk, but the program also features a very handy Edit List. This enables you to keep more than one sample in memory, which makes it a lot quicker to call up different samples for editing at the click of a button. It also makes it possible to make multiple copies of a sample with different edits, so you can quickly compare different versions without having to sit through the usual tedious disk accessing times. You can save the samples individually to disk, or save the entire contents of the Edit List as a Set. This is very useful if you want to keep certain samples together, especially when using the tracker section of the program.

The samples created in Technosound Turbo 2 can be exported for use in many sequencer and tracker programs, but the program also includes its own built-in tracker. This enables you to sequence samples together to form complete pieces of music, without

SPECIAL EFFECTS

Technosound Turbo 2 features the following effects:

THE EFFECTS MENU

You can edit existing samples with the following effects, but you can't hear the result until the edit has been made.

Variable Delay – Range 1–9,999 milliseconds; Variable Echo – Range 1–9,999 milliseconds; Variable

Synthesis; Maximise; Low Pass Filter; Amplify; Soften; Fade In; Fade Out; Compress

THE REAL-TIME MENU

These effects only apply to sounds coming into the Amiga in real time, and can't be recorded by the program.

Phaser; Echo; Delay; Sweep; Ramp; Synthesis; Pitch Up; Pitch Down

THE FUNTIME MENU

These are some more real-time effects, but this time with an emphasis on novelty.

Echo; Reverb; Room; Phaser; Cavern; Pinky and Punky; Sex Change Up; Sex Change Down; Legless; Deepsea Diver; Dalek; Alien; Top Gun; Chopper; Dark Vader; Bruno; Awful the Duck; Nightmare on Oak Street

ever leaving the program. Anyone who's used tracker programs (such as... oh, say, *OctaMED*) will soon get to grips with the controls, because they follow the standard tracker layout. Its not as powerful as a dedicated tracker, but there's no reason why you can't put together fairly complex pieces with it.

Another useful add-on is the MIDI module. This enables you to play the

samples residing in memory (in the Edit List) from an external MIDI keyboard, for which you'll need a MIDI interface connected to the serial port on your Amiga. This way you can treat the Amiga as a sound source for playing sounds from a keyboard.

As if being a sampler, sample sequencer and tone module wasn't enough, Technosound Turbo 2 can

also make your Amiga behave as a sound processor. Through the use of various programmable and pre-set effects, you can manipulate audio signals in real time. There is a broad range of effects available in the **Real-time** menu, all with their own parameter controls, and you can save the parameters in up to 999 different pre-sets per effect. This enables you to access your own

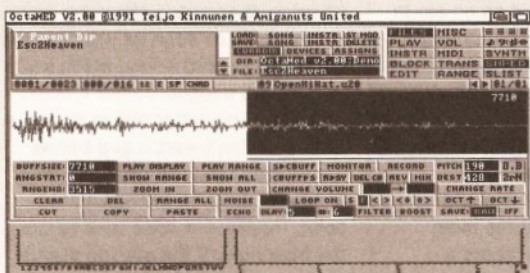
SAMPLE EDITING IN OCTAMED

OctaMED is an excellent tracker program, but there are other sides to it as well, and one of the things that make it so powerful is the integrated nature of the sub-programs within it. Last month we saw how the notation editor can help enormously by showing your music in standard notation form, and this month we'll look at another useful sub-program, the sample editor.

OctaMED uses IFF samples to create sounds. But what if the samples you're using aren't quite what you're looking for? What if they require some tweaking perhaps? With most tracker programs, you'd need to have a completely separate sample editing program to alter any of the characteristics of the samples. Then you'd have to multi-task the sample editor with the tracker, and constantly swap files between the two programs. Or even worse, as is often the case with two different Amiga programs which use the Amiga's sound capabilities, you mightn't be able to multi-task them at all. This would then necessitate you having to quit the tracker, load up the sample editor, load the sample, do the editing, quit the sample editor, load the tracker again, load the edited sample, and see if the editing had the desired effect in the context of your song. Phew. And if it didn't, you'd have to keep repeating the process until you got what you wanted. If you hadn't given up before then.

Thus you can see how useful the

sample editing features on *OctaMED* are. Not only can you access the editor with a click of a button, but you can work directly on the samples you're using, and hear the results immediately in the right context. To fully comprehend the capabilities, it's a good idea to see some of the functions in action. Load up the demo song file supplied with *OctaMED* called *Esc2Heaven*, and flick through the sample list until the current sample is *OpenHiHat.u20*. Let's assume that



You'll never have to leave *OctaMED* to edit samples. The built-in sample editor does the job, no problem.

the sound is not quite to our liking, and that we'd prefer it to be a bit shorter and more crisp. Time to call up the sample editor.

Click on **SMPED** in the top right hand panel and you'll see the standard block editor display of *OctaMED* replaced with the sample editor. In the middle of the display is a graphic representation of the hi-hat sample, and underneath it the controls which enable you to play and make changes to the waveform. Click on the button marked **PLAY**

DISPLAY, just below the waveform window, to hear the sample play. You'll notice that a red cursor moves across the window as the sample plays, giving you an indication of which part of the sound is playing. This is handy if you're trying to identify a certain part of the sample for editing, for example. You can still play the sample from the Amiga keyboard as usual. Press the **P** key on the keyboard to hear the sample fairly quickly, then press the **Z** key to hear it played agonisingly slowly.

Click on **Play Display** again, and you'll notice that the sample plays a bit too slowly. This is because the sample editor is playing C-2 as a reference pitch, which is too low for this particular instrument. The reference pitch is displayed in the pitch gadget to the right of the screen, under the waveform window, and it currently shows the number 428 to indicate the note C-2. You can edit the number by simply clicking in the box and entering a new value – for example, entering the number 214 would make the sample play at exactly twice the rate. However, there is a quicker way to re-define the reference pitch. Click in the grey box to the right of the number (it currently reads **2rN**) and keep the

left mouse button held down. Now pressing different keys on the Amiga keyboard changes the pitch to the respective value. For now press the **O** key and let go of the mouse button, and the number changes to 190. Click on **Play Display** now and the sample plays at a much more acceptable rate.

You can get a closer look at smaller parts of the sample by using the **Zoom In** control. You'll notice that the waveform changes to show the magnified part of the sample and the red bar along the bottom of the wave window shrinks to indicate the part of the wave being looked at. You can keep zooming as far as you want to go, and you can scroll to see the rest of the sample not on view, using the left and right cursor keys on the Amiga keyboard. To bring the wave up to its normal size, either use the **Zoom Out** control or click on **Show All**.

This is fine for getting into the guts of a sample, but often you'll want to see a specific area of the wave for editing. First you need to select a range, which you do by clicking in the wave window with the right mouse button and drag-selecting an area of the sample. To de-select the area, simply click with the right mouse button again. To hear just the part of the sample that you've selected, click on **Play Range**. To compare a selected part of a wave and the original, simply click on **Play Range** and **Play Display** respectively.

favourite effects settings every time you use the program. There is another source of real-time effects in the **Funtime** menu, which features novelty effects such as Dalek voice, but these are all pre-set and can't be adjusted.

The uses for the real-time effects are actually quite limited, because you can't sample the sounds while adding effects at the same time. You could however record the effected sounds to an external tape machine – for example you could sing into a mic, or play a guitar, then use the program to alter the sound and record the output from the Amiga to tape. Another use might be to audition effects in real time before editing a sample with one of the effects in the edit menu. The programmers don't appear to have thought of this though, because the delay effect, for example, doesn't use milliseconds as a parameter in the real-time effects section, whereas it does in the Edit menu.

This means that if you want to add delay to a sample, you're still in the dark as to what the result will be until after the sample has been altered. This could mean you're continually making edits to the original wave form until the result sounds right. It would have been a lot quicker if you could see from the real-time effects what setting you needed.

New Dimensions have certainly packed a lot into this program, and



SHOPPING LIST

Technosound Turbo 2 £49.99
Upgrade from version 1, £15 plus
£1 postage and packing
Software only £29.99

From: New Dimensions,
Brooklands House,
Bryngwyn, Raglan,
Gwent, NP5 2AA
☎ 0291 690933/690901

while the tracker and real-time effects don't stand up next to dedicated equipment, they're certainly a genuine bonus. More importantly, though, Technosound Turbo 2 succeeds in being a very usable and high-quality sound sampler, capable of producing some

stunning results. The way the controls have been designed makes everything extremely easy and quick to use too, which is a major benefit over many of its competitors. Anyone looking for a sound sampling system on their Amiga would have difficulty finding a better choice than this. **AS**

CHECKOUT TECHNOSOUND TURBO 2

Features

●●●●●●●●●●○
All the facilities you could want, plus some real bonus extras like the effects and the tracker module.

Documentation

●●●●●●●●●●○
The manual makes for an informative – and, even more importantly, an easily understandable – read.

Ease of Use

●●●●●●●●●●○
It shouldn't take anyone, even a novice,

too long to get to grips with this program. Very well laid out.

Value for Money

●●●●●●●●●●○
A lot is on offer here at a good price, though there are cheaper sampling packages available.

Overall rating

●●●●●●●●●●○
A great sampling package, which would suit the first-time buyer as well as anyone looking to get better things out of their Amiga.

To the left of the control panel are three gadgets marked **BUFFSIZE**, **RNGSTRT**, and **RNGEND**. The **BUFFSIZE** gadget indicates the overall length of the sample, which is also displayed in red in the upper right-hand corner of the waveform window. **RNGSTRT** and **RNGEND** indicate the start and end points of the range that you've selected. Once you've selected a range, you can edit either of these values by typing in new values, and you'll see the selection on the wave display

buttons. The selected part of the sample is the kind of effect we're looking for.

Of course, playing the sample from the keyboard still plays the entire sample, so we need to make an edit to the waveform to make the change permanent. This is simple: first click on **CUT** in the control panel below the waveform. This makes a copy of the selected part of the sample in a separate buffer, and deletes it from the waveform. What we're left with is the piece of the

sample we didn't want, so to get rid of that, select the entire remaining sample (clicking on **RANGE ALL** is the quickest way) and then click on

CLEAR. Now click on **PASTE** to place the contents of the buffer back into the wave display, and

voilà, the hi-hat sample now plays with a more clipped sound.

It's a good idea to ensure that you've saved the original sample before you make any changes to it, and also to save the edited version under a different name so that you can always go back to the original if you want to. Don't forget, different sounds have different effects depending on their context, and you may find you prefer a longer hi-hat for a slower song, for instance.

With the controls at your

disposal, you can create some really interesting hybrid sounds, by for example cutting a portion of a sound from one sample and pasting it into the middle of another. Also, you can use the **REV** gadget to reverse the range. (You must select a part of the sample first for this to work.) For an obvious example, load back in the original hi-hat sample and select the entire wave. Click on **Reverse** and listen to the resulting waveform. Sergeant Pepper anyone?

There's one more editing

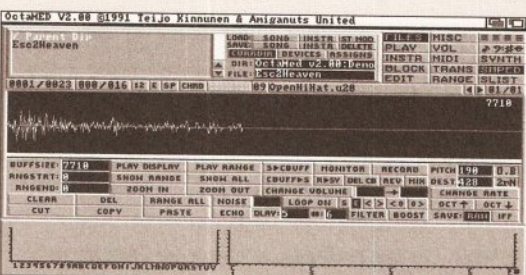
sound.

You can actually use this feature to help free up sample space in the tracker program. For example, if you have constant hi-hats in a song, you can save a voice when the hi-hat and snare strike simultaneously. Simply **MIX** a copy of the hi-hat sound over the snare drum sample, and then trigger the new sample on its own for the snare part. This saves playing the two separate samples simultaneously, and frees up a channel for another instrument.

Using a similar technique, you could record the entire drum part on one track, with different combinations of mixed percussion samples, ensuring that you never have to use more than one channel to play it. This may sound

a bit stingy, but it's careful planning and tricks like this which enable you to get more out of a tracker.

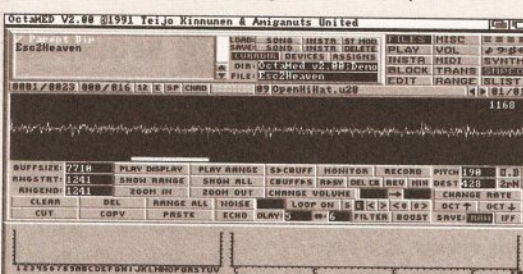
There's even more to the sample editor program than we can fit in here, so check out the disk documentation if you want some serious control over your samples. If you have a sampling cartridge, you can also sample sounds directly into the sample editor. From sampling a sound, to editing it and integrating it into a piece of music, it can all be done within **OctaMED**!



This is the sample waveform after the end's been lopped off it. Thus you can just save what you want.

change to reflect it. This is extremely handy, because it enables you to really fine-tune a selected range for total accuracy.

For this particular sample, we want to make it more crisp, and this will require playing only the first part of the sample. Using the right mouse button, select roughly the first half of the sample, with a numeric range from 0 to about 3,500. Compare the sounds of the selected part and the original using the **Play Display** and **Play Range**



You can join together two different sections of samples, or mix one waveform on top of another.

operation worth looking at here, and that's the mix function, with which you can create some interesting effects. First, bring up the original hi-hat waveform, and click on

S>CBUFF. This copies the entire sample to the copy buffer, without you needing to select the range. Now bring up the Bass Drum sample and click on **MIX**. After a few seconds the copied sample is mixed in with the Bass Drum, creating a good impression of the New Order "Blue Monday" style bass drum

THROUGH C SMILING

Toby Simpson shows how to add windows to your programs to spruce them up.

After last month's work we now have a basic text-based address book working from the Shell. This month we're going to look at how the Amiga opens and uses windows, screens and gadgets so that next month we can improve the look of our address book. All the code is going to be compatible with Workbench 1.3 and above.

In general use, the Amiga's display is made up of a number of separate screens with windows on them. Each screen can have a

different palette, display resolution and display attributes, but every window on a screen must use that screen's display type. The Amiga's operating system takes care of ensuring that all of your screens live in peace and harmony together.

For our address book, we're going to open a window on the Workbench screen, containing a number of boxes for us to type data into and some buttons to press to make things happen. These boxes and buttons are called "Gadgets".

So, how do we open a window

then? First we must declare and fill in a **NewWindow** structure. This structure contains information about what size the window should be, what it should look like and how it should behave. Here's an example:

```
struct NewWindow testwindow =
{
    0,0, /* Top left position
        of window. In this case, 0,0 */
    320,100, /* Width and height
        of window. */
    0,1, /* Block and detail
        pens. (Ignored if you have
        2.04 or above) */
    NULL, /* IDCMP flags. We'll
        talk about these in a while */
    SMART_REFRESH |
    ACTIVATE |
    WINDOWCLOSE |
    WINDOWSIZING |
    WINDOWDRAG |
    WINDOWDEPTH, /* Flags. This
        lot says our window will
        activate itself on opening,
        have a close gadget and sizing
        gadget, be draggable and
        have the standard depth
        gadgets */
    NULL, /* Pointer to first
        gadget. We have none on
        this window */
    NULL, /* Ignore this one */
    (UBYTE *)"Our window title!",
    /* Self explanatory I hope! */
    NULL, NULL,
    32,32, /* Window minimum size */
    640,200, /* And maximum */
    WBENCHSCREEN /* Open on the
        workbench screen */
};
```

Phew. What a complex beast! So, now we have our **NewWindow** structure, what do we do with it? Well, we pass it to the library function **OpenWindow**. **OpenWindow** tries to open our window, and if it succeeds it returns us a pointer to a **Window** structure, or **NULL** if it fails. So, in order to open our window we'll have to declare ourselves a variable which is of type "pointer to a window

structure". We do this as we'd define any other pointer:

```
struct Window *our_window = NULL;
```

This gives us a pointer called **our_window** and sets it to **NULL** (meaning that it points to nothing) to start with. Opening this window should now be as easy as this:

```
if (!our_window =
    OpenWindow(&testwindow))
{
    printf("Couldn't open
        window.\n");
    return;
}
```

This just opens the window, and in the same line says that if the result was 0, print a string saying that the window could not be opened.

We can close it when we're finished by simply saying:

```
CloseWindow(our_window);
```

Every window has a thing called an IDCMP, standing for Intuition Direct Communications Message Port. It's a message port; other tasks can send things to it for you to pick up. It enables Intuition to tell you that things have happened, for example "The user has clicked on your close gadget". You can then act on these events accordingly. There are a number of message types, and you can tell Intuition which of them you're interested in. For our example, we're only interested in one, **CLOSEWINDOW**. This one is sent to us every time the user tries to close our window. We need to now make a small change to our **NewWindow** structure above. Where I've said **IDCMP Flags**, we'll talk about

The symbol  means do not type a return - keep typing to the end of the next line.  means type a space, then keep typing to the end of the next line.

BEGINNERS BEGINNERS START HERE BEGINNERS

What is C?

C is the programming language used to write much of the Amiga's operating system, as well as many of the serious commercial programs available for the Amiga. It enables the programmer to access the system at a low level, making it ideal for writing operating system and utility code. What's more, its abilities to group simple elements into larger, more complex objects that can be manipulated en bloc make it ideal for data-handling uses. It is a compiled program, which means that it is speedy and memory-efficient.

What is a compiler?

A compiler is a program that will translate your C programs into machine code, the language that is understandable to the Amiga's central processor. Compilers translate a program wholesale; once the translation is complete, the finished program will run independently of the compiler. The other kind of translation is

performed by an interpreter, which translates each line of a program as it is executed, one line at a time, and must always be present during execution.

So where can I get a C compiler?

All of the programs in this series are tested with DICE, a shareware package available on Fred Fish disk 491 (see the public domain directory on page 102 for suppliers). DICE will give you everything you need to get started in C, including an editor for entering your programs, a compiler for converting them into machine code, and a linker for linking your programs with any essential system libraries.

These libraries enable you to call on the Amiga's resources - facilities to open screens and windows, present the user with requesters and so on - without having to write your own code to do so. They contain code pre-written by Commodore, and to use them you need to get hold of Commodore's Include files. You can get

these in two ways. The first is to register DICE, which involves you sending \$50 to the author (you'll find details on how to do this in the file register.doc supplied with DICE). The second is to ask Commodore directly.

What are the Includes, and how do I get them?

The Include files are the pre-written C programs that provide the necessary links to the libraries contained within the Amiga's operating system. You can get them from Commodore by sending them a cheque for £25 made payable to Commodore Business Machines (UK) Ltd; include a request for the Native Developer's Toolkit, and send the lot off to: Sharon McGuffie, Commodore Business Machines (UK), Commodore House, The Switchback, Gardener Road, Maidenhead, Berks. SL6 7XA.

As well as the Include files, you'll receive a number of programs that will help you in developing programs and tracking down any mistakes that you make on your way.

GADGETS MADE EASY

As you've probably realised, typing in some of those long-winded structures can be a lot of hard work. And even worse, when you're dealing with lots of windows and lots of gadgets, arranging things and getting the numbers right can be a total nightmare. Wouldn't it be real nice if you could lay out windows, screens and gadgets on the screen the way you want them, and get your Amiga to write the

program to handle them itself? Well, it can. There's a public domain program called *GadToolBox* which does this for you. Commodore also supply such a program, called *ToolMaker*. For a current price of *ToolMaker* you can phone CATS (Commodore Amiga Technical Support) in the USA on 0101 215 431 9180. They take credit cards. *ToolMaker* is for Workbench 2.04 and above.

these later, change the NULL to CLOSEWINDOW.

Now we get some information out of our newly-opened window structure about our message port. We're after something called the "Signal Bit". Each task running has up to 32 signal bits. Other tasks cause these little flags to become set, and you can wait for this to happen. When you open a window, Intuition allocates one signal bit. If we identify which this is, we can wait for it to become set, and when it does we know that some external event has happened:

```
signalmask = 1L << our_
window->UserPort->mp_SigBit;
```

This constructs a mask of signal bits in which we're interested - in this case, just the one. The Amiga routine

which waits for signals is called **Wait**. It expects to be passed a long word, 32 binary bits, with a bit set for each signal we want to hear from. The 1L<< section in the command above turns the signal number into this mask for passing to **Wait**. We can now do this:

```
signals = Wait(signalmask);
```

When this routine returns, a signal has been set. In this case, there is only the one, **CLOSEWINDOW**. We receive this message, reply to it, then and quit:

```
imessage = (struct Intui
Message *)GetMsg(our_window->
UserPort);
if (imessage->Class ==
CLOSEWINDOW)
{
/* We can now quit our program */
}
```

```
ReplyMsg((struct Message
*)imessage);
```

Lets glue this lot together into the example program in the box below. Keep this safe, because we'll be using lots of it next month.

Now we're going to put in some gadgets. Our window already has some gadgets, automatically created and handled by Intuition - a close gadget, a sizing gadget, a depth gadget, and a drag bar. Creating our own though is a little harder than specifying a few flags in the **NewWindow** structure! There are only two types of gadget we're going to be creating: **BOOLEAN** gadgets and **STRING** gadgets. **BOOLEAN** ones will be used to move forwards and backwards between records, and **STRING** ones to both display record information and enable a user to edit record information.

We need to put together a whole list of **Gadget** structures. Once we've set them up, we can include them in our **NewWindow** structure. (See the line in the listing which says **pointer to first gadget**.) A gadget structure looks like this:

```
struct Gadget a_string_gadget =
{
&next_gadget, /* Pointer to next
gadget */
10,10, /* Hit box, start */
100,20, /* Hit box, end */
NULL, /* Flags */
RELVERIFY, /* Gadget flags */
STRGADGET, /* Type of gadget */
(APTR)&border, /* Gadget
```

```
rendering */
NULL, NULL, NULL,
(APTR)&string_special, /* Pointer
to special information (See below)
*/
1, /* Unique gadget ID number */
NULL /* User information (You can
store something here) */
};
```

And every string gadget requires one of these little structures to tell it a little about the string entry:

```
struct StringInfo string_special =
{
buffer_for_string, /* Buffer to
store entered string */
undo_buffer, /* Optional undo
buffer */
0,
25, /* Maximum characters to
allow */
0,0,0,0,0,0,0, /* Various
intuition stuff we set to zero */
NULL /* Optional alternate keypad
*/
};
```

Ten or so of these means a lot of typing. Next month we'll use some loops to create these quickly. Once we've created our gadget list, we just point to it in our **NewWindow** structure and we're away.

You could try getting the above string gadget incorporated in this month's example program. By adding a couple of new **IDCMP** message flags, **GADGETUP** and **GADGETDOWN**, you should be able to detect when the user has selected it, or pressed **[Return]** after having entered a string. **AS**

LISTING: HOW TO OPEN A WINDOW AND WAIT FOR AN INPUT FROM THE MOUSE

```
/* C Programming, example of opening a window
and waiting for something to happen.
Type this in as "window.c"
To compile using DICE, type:
dcc window.c -o window.x
To run, type "window.x" */
/* Any include files we'll be needing */
#include <exec/types.h>
#include <intuition/intuition.h>
#include <dos/dos.h>
#include <proto/all.h>
#include <stdlib.h>
#include <stdio.h>
/* Function prototypes */
void cleanexit(int return_value);
/* Our newwindow structure */
struct NewWindow test_window =
{
0,0, /* Top left position of window. In this
case, 0,0 */
320,100, /* Width and height of window. */
0,1, /* Block and detail pens. (Ignored if
you have 2.04 or above) */
CLOSEWINDOW, /* IDCMP flags */
SMART_REFRESH |
ACTIVATE |
WINDOWCLOSE |
WINDOWSIZING |
WINDOWDRAG |
WINDOWDEPTH, /* Flags. This lot says our
window will activate itself on opening, have
a close gadget, a sizing gadget, be draggable
and have the standard depth gadgets */
NULL, /* Pointer to first gadget. We have
none on this window */
NULL, /* Ignore this one */
(UBYTE *)"Our window title!", /* Self
explanatory I hope! */
```

```
NULL, NULL,
64,64, /* Windows minimum size */
640,200, /* And maximum */
WBENCHSCREEN /* Open on the workbench
screen */
};
/* These are various pointers to structures,
including our window, any messages we might
receive and to the intuition library which
we're going to open. */
struct Window *our_window = NULL;
struct IntuiMessage *imessage = NULL;
struct IntuitionBase *IntuitionBase = NULL;
/* This is the main code. It will open the
intuition library, open the window, wait for
the user to close it, and then exit. */
void main(void)
{
BOOL exit_program = FALSE;
long signal_mask;
/* Open the intuition library. This contains
the window and gadget functions we're going
to be using */
if (!(IntuitionBase = (struct IntuitionBase
*) OpenLibrary("intuition.library", 34L)))
{
printf("Can't open intuition.library.\n");
cleanexit(10);
}
/* Now try and open our new window */
if (!(our_window =
OpenWindow(&test_window)))
{
printf("Can't open window.\n");
cleanexit(10);
}
/* Work out our signal mask */
signal_mask = 1L << (our_window->UserPort->
```

```
Port->mp_SigBit);
/* Now we loop around forever until the user
closes our window */
while (!exit_program)
{
/* Wait for something to happen */
Wait(signal_mask);
/* If it's relevant, act on it */
while (imessage = (struct IntuiMessage*)
GetMsg(our_window->UserPort))
{
switch(imessage->Class)
{
/* If it's close window, set the exit flag */
case CLOSEWINDOW:
exit_program = TRUE;
break;
}
/* Now we've dealt with the message,
reply to it */
ReplyMsg((struct Message *)imessage);
}
/* All done, close up and quit */
cleanexit(NULL);
}

/* void cleanexit(error_code)
This routine simply tidies up anything which
is open before exiting the program */
void cleanexit(int return_value)
{
if (IntuitionBase) CloseLibrary((struct
IntuitionBase *)IntuitionBase);
if (our_window) CloseWindow(our_window);
/* Exit the program */
exit(return_value);
}
```


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AMOS Action

Continuing our DIY tutorial, Jason Holborn adds a tool bar to our AMOS paint program.

After typing in and running last month's listing, you should see a screen format requester that (once you've selected the screen mode you require) opens up the required type of screen. This month I'll present and explain the next part of the paint program source code – the toolbox.

Commercial paint programs such as *Deluxe Paint* present the user with a strip of tiny icons grouped into what programmers call a "toolbox". Each icon gives the user of your paint program immediate access to a different painting function, ranging from the usual freehand, line, box and circle drawing, to "Undo", screen clear and so on. The toolbox is kept completely separate from the picture that you're painting, so it doesn't get in the way of your creative urges.

Our AMOS paint program (or *AS Paint*, as I've affectionately called it) has a toolbox too. It contains a total of ten different icons, each of which performs a different task. All of the program's various functions are accessed from within this toolbox, so

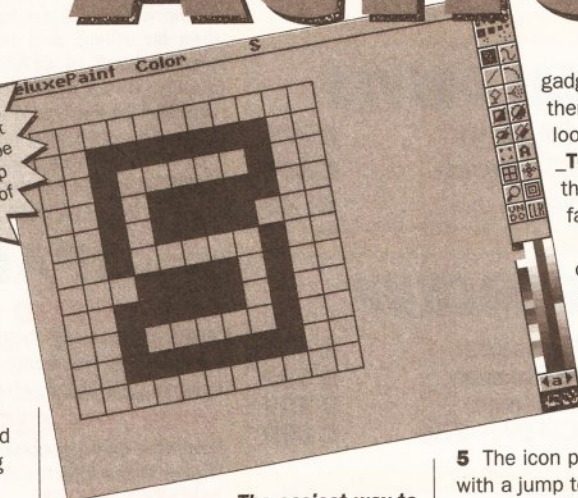
we don't need to create any pull-down menus. What's more, our toolbox is kept in its own screen which is completely separate from the electronic canvas that you draw onto. The icon toolbox can be moved up and down the screen by dragging it with the mouse pointer. There's even a gadget included that displays the currently selected colour!

Anyway, let's get stuck into some AMOS coding. As I said last month, our paint program is fully Easy AMOS and Amos Pro compatible, so there's no excuse for not typing it in. Even if you got AMOS from a magazine cover disk, you can still follow this tutorial.

1 In order to get the main program to handle the new routines we've added this month, a few lines of extra code have to be added to the main program. The first addition is a variable called **CURCOLOR** that is used to hold the current pen colour setting for the drawing functions.

2 The variable is made global so that all the

The symbol  means do not type a return – keep typing to the end of the next line.  means type a space, then keep typing to the end of the next line.



*The easiest way to design gadget imagery is to make a grid within a paint program such as *Deluxe Paint*. By creating a stencil that locks to the grid, you can design your gadgets using the same grid over and over again. here's the grid for the "Save" function.*

drawing functions can access it.

3 Next, the **_TOOLBOX** procedure is called. This procedure does all the hard work of setting up the toolbox display. Lines 3 through to 7 are to be added between the **_OPENSREEN** and **End** lines of last month's listing.

4 The main program then enters a **Repeat...Until** loop that continuously monitors and controls all the

gadgets. Before checking them, though, the main loop jumps to the **_TOOLDRAG** procedure that handles the drag bar facility on the toolbox.

After checking the drag bar, the main loop then calls the **_COLORSELECTOR** procedure that handles the colour selector gadget.

5 The icon processing can begin with a jump to the **_CHECKICONS** procedure. Note that a variable called **SELECTED** is passed to this procedure. It contains the number of the currently selected tool. By default, it is set to 0 (which means that no tools have been selected).

6 The value returned by the **_CHECKICONS** procedure is then stored back into the **SELECTED** variable, reflecting any change of selected tool.

7 Finally, the loop is terminated if **SELECTED = 19** (which means that the **Quit** gadget was selected). If **SELECTED** contains any other value, the loop returns control to step 2.

8 The first of our new procedures – the **_TOOLBOX** procedure. It sets up the toolbox display. Place this and the following procedures after the end of those you entered from last month's listing.

9 The **GADGSIZE** variable controls the size of the icons themselves. Each icon will be 12 x 12 pixels in size (the same as for *DPaint*).

10 The procedure then opens the screen that will contain the toolbox. Note how the vertical size of the screen is calculated according to the size of the gadgets themselves. If we were to increase the size of the gadgets, the screen too would automatically increase in size.

11 We then set up the colour palette using AMOS's **Palette** command.

12 Before setting up the icons we need to allocate memory for the screen zones by telling AMOS how many zones (icons) we wish to create. Although we need only 20 icons, the screen drag bar and colour selector are both treated as icons too. The **COUNTER** variable is

BEGINNERS

BEGINNERS

START HERE

BEGINNERS

What is AMOS?

AMOS is a variant of BASIC, a programming language originally designed for beginners. There's nothing trivial about AMOS, though – with it you can write just about any sort of program you want. AMOS is especially tailored to give you easy access to the Amiga's graphics and sound facilities, and as such is good for writing simple games (it hasn't the speed for the more frenetic arcade-style games) and graphics demos. AMOS is an interpreted language.

What is an interpreter?

An interpreter is a program that translates each line of AMOS code into machine code, the language that is understandable to the Amiga's central processor. Programs written with an interpreter are slower than those written with a compiler, because they must be re-translated each time they run. Also, the interpreter must also be loaded into memory, meaning that programs are relatively inefficient in terms of memory consumption. The advantage is that programs are easier to develop; making changes and getting rid of errors is a relatively hassle-free process.

Which AMOS should I get?

There are three variants: Easy AMOS, designed with the beginner in mind (though the paint program featured here is fully AMOS-compatible, so don't be misled into thinking Easy AMOS is no good); the original AMOS The Creator, which has been given away on a couple of magazines' cover disks, and AMOS Professional, which comes with a number of extensions to make it competitive with the likes of C.

How can I make it go faster?

A compiler is now available, compatible with all variants of AMOS. It will translate AMOS programs into stand-alone modules that will run much more quickly, without need for the compiler or the AMOS editor to be present in memory. See the review on page 58 for details.

Where can I get AMOS?

Easy AMOS costs £34.99; AMOS The Creator £49.99; AMOS Pro costs £49.99; and the AMOS Pro Compiler (also compatible with AMOS and Easy AMOS) costs £34.99. All are available from Europress Software ☎ 0625 859333.

initialised too – it is used to keep track of the current icon number when creating the zones.

13 The first part of the icon drawing process is to draw the 20 boxes that will frame them. To do this, the program enters a **For...Next** loop that is performed ten times, once for every two icons.

14 Because our icon strip is split into two lots of ten icons, two need to be drawn for every pass of the **For...Next** loop. This instruction draws the top icon box.

15 With the icon box drawn, its position is then assigned a screen zone so that it automatically becomes a screen "hot spot", meaning AMOS will let us know if the mouse pointer moves over it.

16 The second icon box is drawn immediately below the first.

17 A screen zone is then defined for this box too. A value of 10 is added to the **COUNTER** variable so that AMOS knows that this second gadget is actually part of the second set of ten icons.

18 To give the icons a Workbench 2.0-like "bas-relief" look, four AMOS **Draw** commands are used to darken the bottom and right-hand edges of both boxes that we've just drawn.

19 The **COUNTER** variable that is used to control zone definitions is then incremented before the control loops back for the next pair of icons.

20 Now we move on to the colour

box gadget, which displays the current pen colour used for drawing operations. The first step is to draw the box that will contain the colour using colour 2 (light brown).

21 To give that Workbench 2.0 look to this gadget, the bottom edge of the gadget is drawn in black.

22 Followed by the right-hand edge.

23 Finally, the colour box gadget is completed by filling in its centre using the AMOS **Bar** command (this draws a filled box). The box is filled using colour register 5, which, as we shall see when we come to code the routine that handles the colour selector, changes whenever a new colour is chosen.

24 The colour selector gadget is then defined to be screen zone number 21.

25 Next we move on to the drag bar, the area of the toolbox that can be dragged with the mouse to move the toolbox up and down the screen. The first thing we need to do is draw the border around the drag bar using the AMOS **Box** command.

26 Using **Set Zone** the box is then defined as screen zone 22.

27 We need to draw the highlights around the box. First we draw the bottom edge of the box.

28 We then draw the right hand edge to complete the box border.

29 We need to add some text to the drag bar. We start, though, by

calculating where the text should be placed.

30 So far the presentation of the toolbox is top notch, so the text itself needs to look the part too. In this case, we'll be creating a sort of shadow effect for the text. In order to do this, we need to set the drawing mode to zero so that AMOS doesn't draw over the top of the shadow once we draw the main text. This is done using the handy **GrWriting** command.

31 After setting the text colour to zero (black), we draw the shadowed text using the **Text** command. This command draws text as a graphic and can therefore place text anywhere on the screen at single pixel resolution.

With the shadow drawn, we draw the main "AS Paint v1.0" text on top of it at a slight offset (1 pixel) so that the shadow shows through.

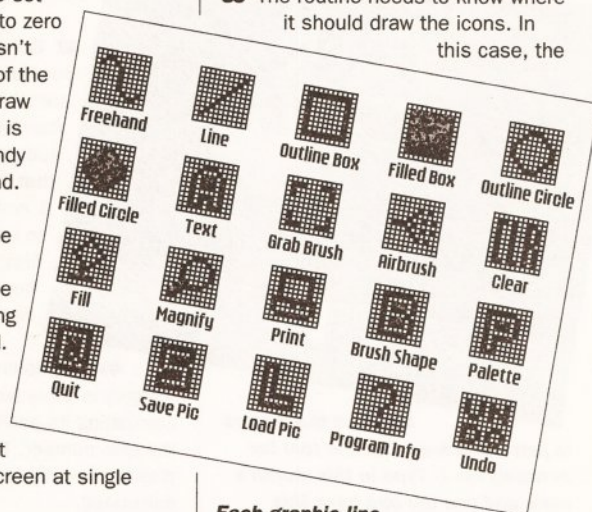
32 With all the gadgets set up, we then move on to the **_SETUPICONS** procedure that draws the icon imagery into the boxes. In order for it to work we need to pass it the size of the icon squares. In this case, a value of 12 will be passed.

33 Next, we move on to the start of the **_SETUPICONS** procedure.

34 To make life easier should you decide to modify the toolbox yourself

(say you want to add more tool icons), the **_SETUPICONS** procedure is flexible enough so that it can automatically draw any extra icons without further modification. The number of icons it should draw is held in a variable called **NUMICONS**.

35 The routine needs to know where it should draw the icons. In this case, the



Each graphic line was converted into a binary number which was converted into a more compact decimal number. Each gadget has 11 of these numbers associated with it, one for each row.

toolbox is screen number 7, so we change to this screen using the **Screen 7** command, which re-routes all drawing operations to this screen.

36 All the gadget imagery information is held within the **_SETUPICONS** routine as a series of data statements. AMOS won't automatically use this data unless we tell it to, so we use the **Restore** command to point AMOS to this

LISTING: AS PAINT TOOL ICONS

```

*** AS Paint V 0.1b
*** Written by Jason Holborn
*** For Amiga Shopper

SCRMOD=1
CLOURS=9
1. CURCOLOR=1
Dim GADG(20,4),PALTTE(32)
Global SCRMOD,CLOURS,GADG(),
PALTTE()
2. Global CURCOLOR
MAIN:
_SCREENFORMAT
_OPENSCREEN
3. _TOOLBOX
Repeat
4. _TOOLDRAG
_COLORSSELECTOR
5. _CHECKICONS[SELECTED]
6. SELECTED=Param
7. Until SELECTED=19
End
8. Procedure _TOOLBOX
9. GADGSIZE=12

```

```

10. Screen Open 7,320,7+
GADGSIZE*2,8,Lowres
Flash Off : Curs
Off : Cls 1
11. Palette $0,$A86,$ECA,
$FF0,$ECA,$FF0,$FF0,$FF0
Rem *** Draw Toolbox
icons and set up gadget zones
12. Reserve Zone 22 :
COUNTER=1
13. For A=GADGSIZE To
20+GADGSIZE*10 Step GADGSIZE+2
Ink 2
14. Box A,2 To
A+GADGSIZE,2+GADGSIZE
15. Set Zone COUNTER,A,
2 To A+GADGSIZE,2+GADGSIZE
16. Box A,4+GADGSIZE
To A+GADGSIZE,4+GADGSIZE*2
17. Set Zone COUNTER+10,
A,4+GADGSIZE To A+GADGSIZE,
4+GADGSIZE*2
Ink 0
18. Draw A,2+GADGSIZE
To A+GADGSIZE,2+GADGSIZE
Draw A+GADGSIZE,2
To A+GADGSIZE,2+GADGSIZE

```

```

Draw A,4+GADGSIZE*
2 To A+GADGSIZE,4+GADGSIZE*2
Draw A+GADGSIZE,
4+GADGSIZE To A+GADGSIZE,
4+GADGSIZE*2
19. COUNTER=COUNTER+1
Next A
Rem *** Set Up Colour Box
Ink 2
20. Box 20+GADGSIZE*11,2
To 28+GADGSIZE*11,4+GADGSIZE*2
Ink 0
21. Draw 20+GADGSIZE*11,
4+GADGSIZE*2 To 28+GADGSIZE*11,
4+GADGSIZE*2
22. Draw 28+GADGSIZE*11,2
To 28+GADGSIZE*11,4+GADGSIZE*2
Ink 4
23. Bar 21+GADGSIZE*11,3
To 27+GADGSIZE*11,3+GADGSIZE*2
24. Set Zone 21,21+GADGSIZE*
11,3 To 27+GADGSIZE*11,
3*GADGSIZE*2
Rem *** Set up Drag
Bar gadget
Ink 2
25. Box 30+GADGSIZE*11,2
To 310,4+GADGSIZE*2
26. Set Zone 21,30+
GADGSIZE*11,2 To 310,4+GADGSIZE*2
Ink 0
27. Draw 30+GADGSIZE*11,
4+GADGSIZE*2 To 310,4+GADGSIZE*2
28. Draw 310,2 To
310,4+GADGSIZE*2
29. POSITION=(30+GADG
SIZE*11)+(310-(30+
GADGSIZE*11)-104)/2
30. Gr Writing 0
Ink 0,0
31. Text POSITION+1,
(GADGSIZE*2)/2+7,"AS Paint V1.0"
Ink 3,0
Text POSITION,
(GADGSIZE*2)/2+6,"AS Paint V1.0"
32. _SETUPICONS[GADGSIZE]
End Proc
33. Procedure
SETUPICONS[GADGSIZE]
NUMICONS=20
34. Screen 7
35. Restore GADGIMAGEDATA
36. For A=1 To NUMICONS
37. Read GADGNUM
38. If GADGNUM<11
39.
continued on page 70

```


particular section of our data.

37 The routine enters a loop to read in and draw each icon.

38 The icon imagery data doesn't have to be entered in order, so you

40 If the Icon number is less than 11, it is placed into the top set of icon boxes by setting the Y position to 3.

41 If it is greater than 10, however, then it is placed into the second set of icon boxes.

42 Because the X position of the icon is calculated using the icon's number, we subtract 10 from it so that it ranges between 1 and 10. If the icon is to be placed into the first, top-most, bank, however, this need not be done.

43 Positioning the icon imagery is tricky since we're calculating its position according to the icon number. To ensure that it is placed correctly, an offset value is calculated.

44 The offset calculated is used to help calculate the X position of the icon imagery.

45 With the position of the icon imagery calculated, we can start to draw it into the icon box. The icon imagery is held as an 11 x 11 pixel matrix. To plot this data, a two-stage **For...Next** loop is used. The first of these loops is used to ensure that exactly 11 lines are drawn.

46 Before entering the second loop, however, we read an entire strip of dots encoded as a decimal number. A value of 2,046, for example, will

give a dot pattern of "1111111110", where a 1 represents a painted pixel and a 0 represents a pixel left blank. Anyone who has studied binary notation will know that this also just happens to be the binary equivalent of 2,047.

47 Obviously the decimal number is no use to us, so we next convert it into a binary number using the **Bin\$** function. The resulting binary number is placed into a string variable called **GADGDATA\$**.

48 So far all we have is an 11-digit binary number which defines a whole strip of gadget image data. We therefore extract each digit in turn using the **Mid\$** function. This places a single digit (which is converted to decimal using the **Val** function) in the variable **PIXCOLOR**.

49 Now that we've extracted the pixel colour from the binary code, the dot is plotted on screen using the colour indicated by the binary digit (0=Clear, 1=Black).

50 This single number dictates the icon number. A value of 1, for example, tells the icon plotting routine that this is the data for icon number 1.

51 Here we have the 11 lines of image data that, in turn, contain 11 items of dot information. Each dot value defines the ink colour to be used for that particular dot.

52 With the toolbox complete, we move on to the **_TOOLDRAG** procedure that handles the user-controlled dragging of the toolbox up

and down the screen.

53 In order for the tool bar to be recognised, we tell AMOS to switch to screen 7 (the toolbox screen). This in effect turns the tool bar screen zones on so that we can monitor them. Only one screen zone is of interest to us though, so we now check to see whether the mouse is currently over screen zone 22 and whether the left mouse button is being pressed.

54 If it is, we alter the position of the toolbox screen by setting the Y position of the screen to the Y position of the mouse. So if you hold down the left mouse button over the drag bar, the toolbox screen will follow the mouse.

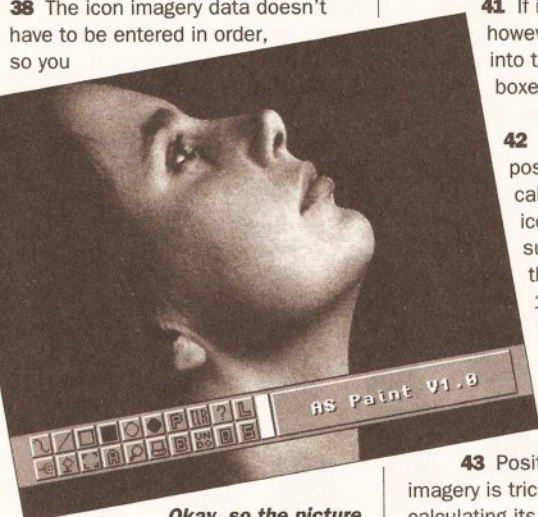
55 To keep the screen movement in sync with the display, the **Wait VBL** command is used. This ensures smooth screen movement.

56 Finally we reset the current screen to zero so that all subsequent drawing operations are carried out on our electronic canvas.

57 The **_CHECKICONS** procedure is used to monitor the activity of the toolbox icons. We'll be covering this routine next month. In the meantime, enter this short code "stub" to make the code that we have so far work.

58 The **_COLORELECTOR** procedure controls the colour selector gadget. Once again, we'll be covering this next month, so for the moment just enter the short code stub so that **AS Paint** still works in its current form.

AS



Okay, so the picture is just a mock-up, but the tool bar certainly isn't. Type in this month's code and you too can have this lovely tool box on your Amiga.

don't have to define all your icons in order. Instead, the routine needs to be told which icon it is currently working on - this is done by reading the icon number first. Once read, it is placed into a variable called **GADGNUM**.

39 Now that we know which icon we're working on, the routine then calculates the Y position of the icon. Because our icons are arranged into two sets of ten, however, the two sets have different Y positions. An **If...Then** construct is used to decide where the icon should be placed.

Listing continued from page 69

```

40.      Y=3
      Else
41.      Y=GADGSIZE+5
42.      GADGNUM=GADGNUM-10
      End If
43.      OFFSET=-1+(2*GADGNUM)
44.      X=(GADGSIZE)*
        GADGNUM+OFFSET
45.      For B=0 To GADGSIZE-2
46.      Read GADGDATA
47.      GADGDATA$=Bin$(
        GADGDATA)
      For C=0 To
        GADGSIZE-2
48.      PIXCOLOR=
=Val(Mid$(GADGDATA$,2+C,1))
49.      Plot X+C,
        Y+B,PIXCOLOR
      Next C
      Next B
      Next A
      Rem *** Icon Image Data
      GADGIMAGEDATA:
50.      Data 1
51.      Data 2047,1663,1471,
2015,2015,2015,2015,2015,
2029,2035,2047
      Data 2
      Data 2047,2045,2043,

```

```

2039,2031,2015,1983,1919,
1791,1535,2047
      Data 3
      Data 2047,1025,1533,
1533,1533,1533,1533,1533,
1533,1025,2047
      Data 4
      Data 2047,1025,1025,
1025,1025,1025,1025,1025,
1025,1025,2047
      Data 5
      Data 2047,1935,1911,
1787,1533,1533,1533,1787,
1911,1935,2047
      Data 6
      Data 2047,1935,1799,
1539,1025,1025,1025,1539,
1799,1935,2047
      Data 7
      Data 2047,1543,1787,
1675,1675,1787,1671,1727,
1727,1599,2047
      Data 8
      Data 2047,1203,1461,
1461,1461,1459,1461,1461,
1461,1173,2047
      Data 9
      Data 2047,1935,1911,
1911,2039,2031,2015,2015,
2047,2015,2047
      Data 10
      Data 2047,1599,1727,
1727,1727,1727,1727,1667,

```

```

1787,1539,2047
      Data 11
      Data 2047,2047,2027,
2015,1973,1119,1973,2015,
2027,2047,2047
      Data 12
      Data 2047,2015,1967,
1911,1787,1911,1967,1951,
1983,1551,2047
      Data 13
      Data 2047,1137,1533,
1533,2047,2047,2047,1533,
1533,1137,2047
      Data 14
      Data 2047,1935,1911,
1675,1675,1675,1787,1675,
1707,1571,2047
      Data 15
      Data 2047,1991,1979,
1917,1917,1917,1851,1543,
1151,1279,2047
      Data 16
      Data 2047,1539,1787,
1787,1787,1787,1025,1493,
1533,1539,2047
      Data 17
      Data 2047,1543,1787,
1675,1675,1783,1675,1675,
1787,1543,2047
      Data 18
      Data 2047,1453,1445,
1449,1645,2047,1139,1453,
1453,1139,2047

```

```

      Data 19
      Data 2047,1539,1787,
1675,1675,1675,1707,1683,
1771,1539,2047
      Data 20
      Data 2047,1539,1787,
1667,1671,1787,1803,1547,
1787,1539,2047
      End Proc
      '
52. Procedure _TOOLDRAG
      Screen 7
53.      If Mouse Zone=22 and
        Mouse Key=1
54.      Screen Display 7,
        Y Mouse-15,,
55.      Wait Vbl
      End If
56.      Screen 0
      End Proc
      '
57. Procedure _CHECKICONS
      [SELECTED]
      Rem *** Check icon
        code goes here...
      End Proc[SELECTED]
58. Procedure _COLORELECTOR
      Rem *** Colour
        selector code here...
      End Proc

```


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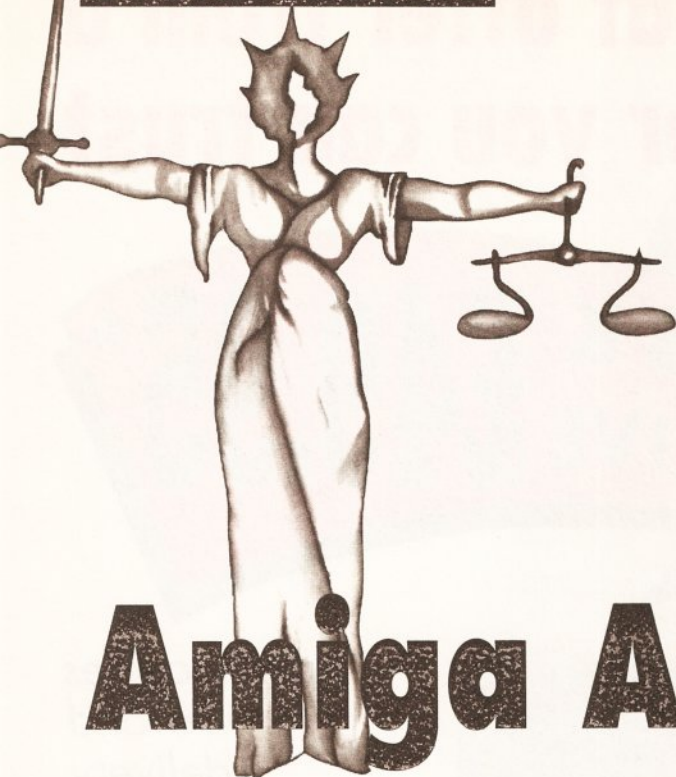
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Buying by mail can save you time, trouble and money, but what are the legal problems? Solicitor Kevin Walsh explains your rights as a mail order Amiga shopper, then reveals how to get results if something goes wrong.

Amiga Advocate

Have you ever bought goods by mail order? It often works out cheaper than buying from High Street shops, and can offer a wide choice of goods. It makes very little difference to your legal rights, but it does create pitfalls which you ought to be aware of and try to avoid.

First, the seller will be a relatively unknown firm. With local shops you usually know how long they have been trading, what sort of reputation they have, and so on, but you can't tell if mail order firms only set up last week or are as much of a cowboy

outfit as John Wayne's trousers.

However, you can try flicking through back issues to see which companies are well-established. Don't be fooled by the size of advert – big or small, crooks use them all.

Avoid adverts which give only a PO Box number. Reputable companies have no reason to hide their address, whereas dodgy ones won't want disgruntled customers, Trading Standards officers or the Inland Revenue to find them. And when you order, ask for a receipt – by law all receipts must contain the full trading name of the business and

its registered address. This may prove invaluable if there's a dispute.

Look for firms which have invested in themselves and have a consumer credit licence or accept payment by credit cards. These are not proof of integrity, but are usually subject to at least a brief check into the company and its owners.

The second pitfall of mail order is that you cannot examine goods before you purchase them. It is therefore vital to be aware of your legal rights beforehand. You will only be allowed to return goods and get a full refund if the goods are faulty,

excluding minor or trivial faults such as a superficial scratch or a missing component which is easily replaceable. You are not entitled to a refund simply because you don't like the look of something, have changed your mind, or it isn't quite what you expected, unless you can prove that your expectations were reasonable – for example, you were told by the seller what to expect and the goods did not live up to this.

It is therefore a good idea to try to find out as much as possible about goods before you order them. Visit a local supplier if you can and get a demonstration. Check that what you are ordering is the same version or model – or if it is slightly different, check what exactly these differences are. Remember that with mail order you only get what you ask for, so make sure it's what you want.

The third pitfall, and possibly the biggest concern about buying by mail order, is the delay between paying your money and getting your goods. As the law currently stands, as soon as the seller receives your order the money becomes his, and he becomes obliged to send you the goods ordered. If he does not, you must bring a court action to recover the money – so if he has gone bankrupt between receiving your order and dispatching the goods, you can probably kiss goodbye to both your money and the chance of receiving your goods. If you minimise the period between the seller receiving your money and sending out your order, this minimises the risk of losing your money.

Credit card companies insist that

THE SECRET OF EFFECTIVE COMPLAINING

Suppose after receiving your goods you find a fault – what should you do? How can you complain most effectively? The art of effective complaining lies in preparation, and not simply telephoning to give the dealer a piece of your mind.

The first thing to do is to identify exactly what the problem is, being as specific as you can – a particular component is missing, a particular program refuses to function at a particular point, etc. Next, identify exactly what you expect the seller to do about it – repair, replace or refund. This usually causes problems because consumers expect more from purchases than the law requires sellers to provide. Again be as specific as you can – for example, if you seek financial compensation, how much and why?

Pause at this stage and consider your position. Having decided what you want, are you legally entitled to

it? For a full refund, there must be a breach of a *condition* of the contract, or what in Scotland is called a *material breach of contract* – a breach of something *essential* to the contract. If not, you are only entitled to the cost of repair or bringing the goods up to the standard specified.

Even if you are not entitled to the remedy that you seek, sellers aim to keep their customers satisfied, so there can be no harm in asking.

Having identified your problem and what it would take to satisfy you, you can now set about complaining. Whether you're dealing with a mail order or an over-the-counter purchase, it's a good idea to note down in writing all the points relevant to your case – dates, times, names, what was said, and so on.

The first step is always contact the sales rep (the person you spoke to before) and put your point across politely. In most cases, where an

amicable settlement is going to be agreed it will be done at this stage.

If this approach is unsuccessful, ask to speak to the person in charge, whether immediately or by making an appointment for a more convenient time. Again, put your point of view politely, explain the facts and state why you believe that you are legally entitled to the remedy sought. Do not demand a solution immediately, but be ready to give the seller some time to consult the manager or whatever. Follow this up by recorded-delivery letter, clearly stating your grievance, your proposed solution, and referring to all relevant dates and conversations.

When complaining by letter, always include a time limit within which the other party should respond. This will highlight the urgency of the matter, and implies that failure to reply within this period will result in the matter being taken

further. It also shows the seller that you are not prepared to accept feeble excuses and delay just because the acting deputy manager for customer relations is on holiday for two weeks. At this point the seller is unaware whether or not you will pursue the matter further – whether via the courts, Trading Standards, or the press – and probably won't be prepared to call your bluff. But be sure the timescale is reasonable. I would suggest allowing seven to ten days from receipt of your letter.

Most dealers will at this stage agree at least to reconsider your case, and so try to keep the whole affair a private matter and avoid any adverse publicity or court orders.

Cases that go beyond this stage invariably do so because of one of three things: either the buyer is being unreasonable in his requests, the seller is ignorant of his legal responsibilities, or the seller is aware of his legal liability but considers himself above the law.

At this point there are several options open to the disgruntled

goods be dispatched as your account is charged, which means paying by credit card should ensure speedy service – suppliers know the credit card company will pay up, so there is no likelihood of them sending out goods and then not getting paid. As we explained in *Amiga Shopper* 28, paying by credit card also means you can claim against the credit card company as well as the supplier if there is any breach of contract – very handy if the supplier goes bust. (If you missed AS 28, see page 108.)

If you pay by cheque, suppliers will wait to make sure the cheque doesn't bounce, leaving them out of pocket. However, cheques can be cleared in three working days, so there is no excuse for the delay between cashing a cheque and dispatching an order exceeding this. Consequently, whenever you order you should stipulate that this is an *essential condition of your order*. The importance of the word *essential* is that if the condition is breached, you are entitled to cancel the contract without further notice.

Having made this stipulation, follow it up. First class mail normally arrives the day after posting, so allow a further three days, then phone the supplier to confirm that the goods have been sent out.

Some suppliers may claim that the goods you ordered are not in stock, or that they are overwhelmed with orders, so they will not be able to supply the goods within your timescale. Politely but firmly insist immediately on a guaranteed delivery date or a full refund.

The final pitfall is that you're

conducting business at a distance, so if a dispute arises it must be settled by letters or telephone calls, which can easily be ignored. The solution is to be fully aware of your rights and enforce them firmly.

HOW YOU CAN EXTEND YOUR LEGAL PROTECTION

- 1 Be as specific as possible and order exactly the goods you want.
- 2 Tell the seller *why* you want the particular goods – game-playing, producing professional colour artwork, and so on. It will then be implied by law that the goods sold are fit for that purpose, unless the purpose is very obscure.
- 3 Tell the seller what equipment the goods will be used with. It will then be implied that his goods are compatible with these – a computer shop will be expected to know if an add-on is A1200 compatible, needs Workbench 2 or above, and so on.
- 4 Check the details in the advert. Terms such as "prices subject to change" may be included because adverts are often placed four to six weeks before you read them and manufacturers' price rises may be announced in the meantime. So telephone the seller before ordering and get confirmation of all the relevant details. Have a pen and paper handy and always find out the name of the person you are speaking to. Don't quote the price, ask for it. Although the price quoted in the advert might not be legally binding, you should ask why if the price is different from the one in the advert. Ask about any additional costs – for example, delivery, leads, and so on.

Confirm if the goods are in stock.

- 5 You may want to contact several suppliers for quotes – often there is competition to match or beat prices.
- 6 Never send cash for your order. It can be impossible to prove that this was received. Always send a cheque or credit card details, where you can trace who the money was paid to – or as a last resort, a postal order.
- 7 The key point to bear in mind is that you are entering into a contract, and with few exceptions the law will not seek to amend the terms agreed between you and the seller. Sellers are aware of this, and their adverts and order forms may incorporate all manner of terms and conditions, all beneficial to them – "subject to the company's usual terms and conditions", and so on. So turn the tables: don't use their order form at the corner of the advert, but rather order by sending a letter, in which you can impose your own conditions.

Include your name and address. Refer to your telephone conversation and state precisely what you want to order and the total price quoted. Then state any contract terms you want included – what happens if the goods are inadequate, faulty etc. Here are some examples to adapt.

1. *I shall be allowed 14 days to examine and inspect the goods before I shall be deemed to have accepted them in fulfilment of your contractual obligations.* (This allows you 14 days to try the goods and reveal any faults without prejudicing your legal right to reject them.)
2. *It is an essential condition of the contract that the goods supplied will work properly for 14 days after*

purchase. (This expands your right to reject goods to cover all defects; at law you are only entitled to reject goods if a defect amounts to a breach of a condition of a contract.)

3. *This order is entirely conditional upon the goods ordered being in stock and being dispatched within four working days of the attached cheque being presented, failing which I am entitled, without penalty, to a full and immediately refund of all sums paid, and failure to refund immediately shall entitle me to compensation at the rate of £1 per day until a refund is issued, the date of issue being conclusively established by the postmark of the accompanying letter. If you do not anticipate being able to fulfil this condition, the attached cheque should not be cashed, but should be returned to me immediately.* (This is a particularly onerous condition and should only be used when you have confirmed in advance by telephone that the goods are in stock and delivery within the timescale is possible, otherwise it is a waste of your time and the seller's.) **AS**

WARNING

Amiga Advocate is intended only as a guide to the law, and you should not rely solely on anything said here. Always try to resolve any dispute in an amicable way, and seek independent advice. We cannot give advice on individual cases, act as arbitrators in any dispute, or reply personally to any correspondence.

consumer, depending upon the nature of the complaint. If the trader has broken the criminal law – for example, fraud or applying a false trade description – the appropriate method of proceeding with the dispute is to contact the local Trading Standards department (in the telephone book under your local council), who will investigate the matter and, if sufficient evidence exists, refer the case to the Crown Prosecution Service (or Procurator Fiscal in Scotland) for criminal proceedings to commence. This will establish a trader's criminal behaviour. Customers can then pursue civil actions and refer to the criminal action as evidence.

If the dispute is of a purely civil law nature, which essential means a breach of contract in some way, the first step ought to be to contact your local Trading Standards office, whose advice is free and who may intervene on your behalf. Dealers are often anxious to avoid outside interference in their business, but most recognise that where Trading

Standards are involved, the Trading Standards officer will have examined the facts and be of the opinion that a legal case exists, and that they are often being given one last chance to avoid court action.

In addition to pursuing the matter through your local Trading Standards department, several other options are available.

- If the goods involved are new brand-name items like Amigas, complain to the manufacturers. Manufacturers spend large sums promoting their products and are keen to maintain the right image for their products and everything associated with them, including their dealers. If the seller boasts of any association with the manufacturers – "approved dealer", "service agent", and the like – contact the manufacturers, pointing out the trading practices of the seller concerned and asking the manufacturers if they are aware of such practices and do they condone them. Such a loaded question will tend to produce a letter disapproving

of any malpractices and may encourage the manufacturers to demonstrate their dissatisfaction to the seller, often persuading them to reconsider and resolve the matter.

- Publicity can do wonders. Sellers seldom operate a monopoly, and other traders are keen for business, so it is in the seller's interest to keep its customers satisfied, or at least appear to do so. Unfavourable coverage in the press, local or national, is likely to damage a seller's reputation and deter potential customers. The effect of the press is obvious when you consider the huge amounts of money spent by dealers and manufacturers in advertising their wares.

- The final option, and perhaps last resort, is court action. This may require you to see a solicitor about initiating court proceedings. Most people are deterred by the perceived cost of this option and often let the matter drop rather than pursue it, but legal advice need not cost you anything at all. Check your home contents or car insurance – these

sometimes provide legal representation in consumer disputes. Failing this, head for your local High Street. Most solicitors offer a free initial interview scheme, where the solicitor will spend up to 30 minutes going over the facts with you, primarily to see if there is a possible legal case. If there isn't, he will tell you so, free of charge. Try getting someone to look at a broken computer or washing machine and not charge a fee for coming to the conclusion that there is nothing they can do for it!

Having established that you do have a legal leg to stand on, you can either instruct the solicitor to pursue your case, or do it yourself via the small claims court. For details of this, check the Amiga Advocate column in *Amiga Shopper* 25 (also still available on page 108) and ask the clerk at your local County Court (or Sheriff Court in Scotland) for further information. Look up your local Citizen's Advice Bureau or local law centre for further assistance – that's what they're there for.

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THE FIRST 9Mb 32 BIT INTERNAL RAM CARD FOR AMIGA 1200

Features:

- ★ Integrated 32 bit Ram conveniently expandable to 5Mb or 9Mb (comes with 1Mb installed). Giving a maximum capacity of up to 11Mb to your Amiga 1200.
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- ★ 100% compatible with all Amiga 1200.
- ★ Easy installation. Just plug in and go.

Important:

Please note: to operate the Mathematic Co-Processor with clock rates over 14MHz you need a Quartz (Oscillator).

The Quartz (Oscillator) must have the same clock rates as the Mathematic Co-Processor.

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AF1200 5Mb with clock, Oscillator, 25MHz 68882 FPU	£295.00
AF1200 5Mb with clock, Oscillator, 33MHz 68882 FPU	£299.00
AF1200 9Mb with clock, no Oscillator, no FPU Processor	£369.00
AF1200 9Mb with clock, Oscillator, 16MHz 68882 FPU	£415.00
AF1200 9Mb with clock, Oscillator, 20MHz 68882 FPU	£420.00
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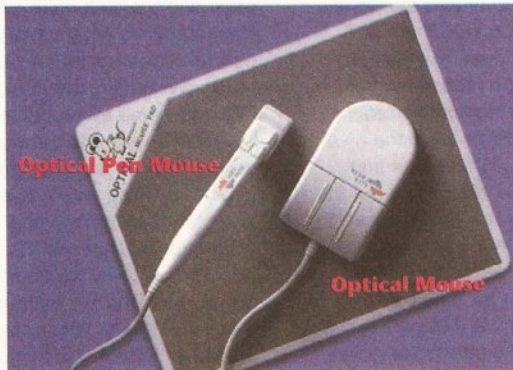
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System requirements:

- ★ For all Amiga models with a monitor or compatible TV set, 1 megabyte of RAM and a floppy drive.
- ★ More memory and hard disk are recommended but not required.
- ★ Compatible with Amiga WB 1.3 and higher (WB 3.0 also supported).
- ★ Any painting, publishing and OCR programs that load IFF files. Examples:- Deluxe Paint, Professional Page, Page Stream, Saxon Publishers, Mgraph OCR.

**PRICE
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Hardware features:

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All prices are inclusive of VAT
Products advertised represent a small sample of our in-stock range. A complete price list is available on request.

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Scanning Tray.....	£49.00
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Touch-Up Upgrade v3.1x available.....	£29.95
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Controller + 120Mb Hard Drive.....	£299.00
Controller + 240Mb Hard Drive.....	£399.00

HARD DRIVES FOR A600/A1200

40Mb + IDE Cable.....	£149.95
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Fitting for A600 or A1200.....	£29.95

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1Mb RAM with Clock A600.....	£29.95
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Amiga Network International 2 monthly club disk, reviews, advice. For info contact Phil or Steve: 434 Denby Dale Rd East, Wakefield, W Yorks WF4 3AE. (AS33)

Amiga Utd Disk based, reviews, competitions, help service, BBS, games and utils. Contact D Collingwood, 14 Linden Close, Hutton Rudley, Yarm, Cleveland TS15 0HX. £10 a year. (AS33)

Artman News, views, reviews, free PD for your articles. Free membership. Send blank disk plus SAE for free disk mag and two free games to A Greenwood, 40 Northwell Gate, Otley, West Yorks LS21 2DN ☎ 0943 466476. (AS33)

Champion PD Club PD at 30p, newsletters, advice, help and more. Membership £10. Contact Steve Pickett, 31 Somerset Close, Catterick, N Yorkshire DL9 3HE. (AS33)

Chester-le-Street 16-Bit Computer Club Exchange advice and swap tips. Meets Mondays from 7.30-9.30pm, Ground floor function suite, The Civic Centre, Newcastle Rd, Chester-le-Street. Contact Peter Mears ☎ 091 385 2939. (AS33)

Club 68000 Competitions, programming, music. Meets Harrogate Leisure Centre, Mondays 6.15pm-10pm. SAE to Chris Hughes, 59 Walton Park, Pannal, Harrogate, N Yorks HG3 1EJ ☎ 0423 891910. (AS33)

Club Amiga £10 a year for PD and a 24-hr helpline (091 385 2627). For more info send SAE to Chris Longley, 5 Bowes Lea, Shiny Row, Houghton Le Spring, Tyne and Wear. (AS33)

Club Futura Advice to programmers and

beginners. Send SAE for info to G Holland, 16 Hermiston, Monkseaton, Whitley Bay, Tyne & Wear NE25 9AN. (AS33)

Darlington Commodore Users Club News, discounts, cheap PD, advice, newsletter and more. Annual membership £5. Contact S Wheatley, 1 Ruby St, Darlington, Co Durham DL3 0EN. (AS33)

FST Amiga Club Bi-monthly newsletter, all types of activities. For £15 membership you receive one free commercial game plus one PD disk plus 11 further PD disks, one per month. Contact Tel or John, 17 Grasmere Close, Penistone, Sheffield, Yorks S30 6HP. (AS33)

Harley's PD Swaparama PD swapping by mail. Contact G Varney, 140 Weston Drive, Otley, West Yorks LS21 2DJ ☎ 0943 466896. (AS33)

Nothing But AMOS Monthly disk magazine - £2.50 - news, reviews, previews, tips & cheats. Contact Neil Wright 39, Riding Dene, Mickley, Northumberland, NEA3 7DL ☎ 0661 842292. (AS35)

Pennine Amiga Club Free membership, free advice and a newsletter. Contact Neville Armstrong, 26 Spencer Street, Keighley, West Yorkshire BD21 2BU ☎ 0535 609263. (AS33)

Software City Swapping, competitions, club magazine. Membership £8. Contact N Richards, 9 Hollis Close, Manor Estate Farm, Rawmarsh, Rotherham, South Yorkshire S62 7LX ☎ 0709 526092. (AS33)

Steel PD, cheats, ideas, music, art, programming, hardware mods. Free membership (postal only). Contact James Whitehead, 33 Middle Cliffe, Drive Crowedge, Sheffield S30 5HB. (AS33)

The Amiga Club Monthly newsletter, competitions, software exchange, huge PD library, cheats, tips, reviews. Contact G Starling, 31 Pine Lea, Brandon, Durham DH7 8SR. Membership £10 life plus two free games and DCopy. (AS33)

The Amiga Studio Friendly, helpful advice for serious users of the Amiga. Monthly newsletter, PD library, free loan of equipment to members, bar. Meets 7pm Tuesdays, Mitchells Club, Scotia Road, Tunstall. Contact Dave Rose ☎ 0782 815589. (AS33)

Wardray Hern Consortium User group for Amiga and possibly others. Membership fees to be discussed and incurred. PD library to be set up. Also Hern connection - worldwide contacts wanted. SAE and disk to WardCon info, (AS) Warren Hardy, 21 Stockfield Ave, Fenham, Newcastle upon Tyne NE5 2DX. (AS33)

Warpdrive Help-line, PD library, bi-monthly disk mag, free drinks, competitions and info-sheet. £15 per year. Contact B Scales, 110 Burton Ave, Balby, Doncaster DN4 8BB ☎ 0302 859715. (AS33)

NORTHWEST

Allbit Computer Club General hints and tips, advice, competitions, draws, shop. Meet at The Earle of Crewe, 7.15-10.30pm. Contact Glyn or Mick, 0270 666277. Membership £2. (AS33)

Amiga Users Group Part 2 Advice, technical support, BBS, PD library, tuition, etc. Contact Andy Wilkinson, 25 Glen Eldon Road, Lytham St Annes, Lancashire FY8 2AX ☎ 0253 724607. Free membership. (AS33)

Blackburn Amiga Users Group Software/hardware help, public domain, exchange of information. Meets 7.15pm every Thursday, Room 3, Audley Sports Centre. Contact Eric Hayes, 9 Observatory Road, Blackburn, Lancashire BB2 3HE ☎ 0254 675625. (AS35)

Computeque From beginner to advanced user. Meets 7.45pm-10.30 pm every Tuesday at Inskip Meeting Hall, Ashurst, Skelmersdale, Lancs. Contact Steve Lalley ☎ 0695 31378. Half year membership £2.50 children, £3 adults (AS33)

Fylde Computer Club All aspects of computing. Meets 7pm, Lostock Gardens Community Centre, 2nd and 4th Wednesday of month. £15 per year, 50p on door. Contact Colin Biss, 90 The Esplanade, Fleetwood, Lancs FY7 7BQ ☎ 0253 772502. (AS33)

Hyndburn Amiga Users Club Tuition, advice, PD, and more. Meets Mondays 7pm, at the Canine Club, Accrington (£1 on the door). Contact Nigel Rigby, 7 Brecon Avenue, Oswaldtwistle, Lancashire BB5 4QS ☎ 0254 395289. (AS33)

New Hall Amiga Users Club Games, graphics, music, Workbench programming. Meets 7pm every Tuesday, New Hall Social Club, 104 Bury Rd, Dawtenshall. Membership £5 per year, under 16s not allowed. Contact Bill Grundy, 115 Stanley St, Accrington, Lancs. ☎ 0254 385365. (AS33)

SCOTLAND

Amiga Helpline Software/hardware help service, free access to PD, DTP fonts and clip-art, plus general chit-chat. Send stamp for details. Contact Gordon Keenan, Amiga Helpline, 6 Skirsa Square, Glasgow G23. Membership £20 per year. (AS33)

Angus Amiga CDTV club Contact J Robertson, 22a High St, Brechin, Angus DD9 6ER ☎ 0356 623072. Review software, discuss anything Amiga. Free membership. (AS33)

Edinburgh Amiga Group Membership £5, inc free advice and PD. SAE to Neil McRea, 37 Kingsknowe Road North, Edinburgh EH14 2DE. (AS33)

Lothian Amiga Users Group Advice and

help in buying hardware, software etc, group buying, dealers' circulars welcome. Membership free. Contact Andrew Mackie, 52 Birniehill Ave, Bathgate, W Lothian EH48 2RR ☎ 0506 630509. (AS33)

Perth and District Amateur Computer Society General advice, talks, Amiga PD. Meetings third Tuesday in every month, 8pm. Membership £6 or free for under 16s. Contact Alastair MacPherson 137 Glasgow Rd, Perth. (AS33)

Redburn Computer Users Group Help, ideas, PC, graphics and business. Meets every second Wednesday 6.30pm to 9.30pm. Contact Ruby Anderson ☎ 0294 313624. (AS33)

Tay-Soft PD Club Non-profit-making postal PD, advice, disk newsletter, helpline 6-10.30pm. Contact Dave Thornton, 46 Balmerino Road, Dundee DD4 8RR ☎ 0382 505437. Membership £2.50 (free Utis disk on joining). (AS33)

WALES

Amiga Maniacs Help Graphics, sound, WB, programming, help. Beginners welcome. Free membership (by post). Contact Johnny, 8 Tany-Grais, Caernarfon Rd, Bangor LL57 4SD. (AS34)

Amiga Navigation Contact Dave Thomas 4a, Allister St, Neath, W Glamorgan. PD, advice, even small repairs and social evenings. Weds 7-9pm. Membership £10 per year. (AS34)

Bloomfield Video and Computing Beginners, video techniques. Meetings at Bloomfield Community Centre, Narberth, 7.30pm alternate Tuesdays. Membership £5. Contact Mrs Beryl Hughes, Nashville, 50 Glynderi, Carmarthen, Dyfed SA31 2EX ☎ 0267 237522. (AS34)

Blue Bedlam disk-based magazine with variety, news, views, games, etc. Contact Michale Grant, 48 Gills Avenue, Cwrtygollen, Crickhowell, Powys, Wales NPS 1TG. (AS35)

ShieldSoft PD, CLI help, AMOS help, newcomers welcome. 26 Doren Avenue, Rhyl, Clwyd LL18 4LE, ☎ 0745 134 3044. Membership free. (AS34)

Sols (Amiga) BASIC and AMOS. 26 Doren Avenue, Rhyl, Clwyd L18 4LE. ☎ 0745 343044. (AS35)

South Wales Club Newsletter, PD library, free newsletter, programs, help and advice. For more info contact D Allen 53 West Avenue, Treceyndd, Caerphilly CF8 2SF. (AS34)

Wrexham District Computer Club PD, library, equipment loan. 10p to join, 50p to get in. Meetings at the Memorial Hall, Wrexham every Thursday, 7-10pm. Contact Paul Evans, 3 Ffordd Eifed, Rhosnesi, Wrexham, Clwyd LL12 7LU. (AS34)

OVERSEAS

16-32 Micro Programming AMOS, bi-monthly fanzine, PD (Fish → 590). Membership 100FF or £10. Contact F Moreau, 132 rue Jean Follain, 50000 Saint-La, France ☎ 315220 02. (AS33)

32-bit ware Devoted to A1200 and A4000 - PD, coverage of new software for these machines, games help. Meet on Hurricane BBS, mostly Saturday nights. Contact 32-bit ware, Ekorrstigen 10, 147 63 Tumba, Sweden. (AS33)

Amiga Addicts Newsletter and open nights. For info SAE to A Minnock, Clonkelly, Binn, Co Offaly, Ireland. (AS33)

Amiga Athens club PD swaps, tips, cheats etc. Free membership, just new PD or tips in exchange for our services. Contact Stefanos Papamichael, 9 Derfeld Rd, Patisia, 11144 Athens, Greece ☎ 01/2027973. (AS33)

Amiga Pros User Group, Greece Concentrates on promotion of the Amiga in Greece, plus DTP, AMOS and graphics. Contact Stefanos Siopoulos, 52 Silivrias

GETTING YOURSELF LISTED - AN IMPORTANT NOTE

Your user group will be listed here free of charge for six issues, then deleted to prevent defunct groups being listed indefinitely. The number at the end of each entry is the last issue in which that entry will be included. If you want your group's entry left in, just send in this coupon again a couple of issues in advance. PD libraries are now listed at the end of the PD section - this issue, page 102.

If you run a user group which isn't listed on this page, fill in the form below for your free entry. Send it to Amiga Shopper User Groups List, 30 Monmouth Street, Bath BA1 2BW. We reserve the right to refuse entries.

AS30

Group name

Type of activities

Place of meetings

Time of meetings

Contact name

Contact telephone number

Contact address

Membership fee

Str., N. Smyrni 17123, Athens, Greece, ☎ 01/9349963. Membership free. (AS33)

AMOS Users Join The MR AMOS Club, winners of Europress Software's AMOS programming competition. Send £2.50 for issue one of disk mag. Contact Brian Bell, 8 Magnolia Park, Dunmurry, Belfast BT17 0DS. (AS35)

AUGFL vzw Bi-monthly newsletter, PD, distribution & support of Belgian programs, registration-site, tips. 750 Bfr/year membership. Contact Lieven Lema, Meesberg 13, 3220 Holsbeek, Belgium. (AS33)

City Centre Amiga Group All-round user group, esp. PD, DTP, help for new users. Meet Ormond Hotel, 2-6pm. Contact Patrick Chapman, 70 Ballygall Crescent, Finglas East, Dublin II, Ireland, ☎ 345035. Membership £3 per week. (AS33)

Comp-U-Pal Australian group for users in the outback. Newsletter, helpline, PD library. Membership \$24. Comp-U-Pal, 116 Macarthur Street, Sale, Victoria 3850, Australia. (AS33)

Danish AMOS user group Bimonthly disk mag, £2 each, PD library. SAE for info. Contact Tom Poulsen, Stenmøllen 28, 2640 Hedehejse, DK Denmark ☎ 42 16 54 84. (AS33)

Gibraltar Amiga Users Club PD library, monthly newsletter, disk magazine, competitions, regular meetings (in the John Macintosh Hall). Membership from £6 per year. Contact David Winder, 7 Lime Tree Lodge, Montagu Gardens, Gibraltar ☎ 010 350 79918. (AS33)

HTS (Malta) Free membership. Contact K Cassar, Block 1 Flat, 6 H E Hal-Tmiem, Zetjun ZTN07 Malta ☎ 674023. (AS33)

Japan Amiga Group Share disks and make Japanese contacts. Contact: Rick Gardaya, PSC 78 Box 3876, APO AP 96326 USA. (AS35)

Malta Amiga Club Contact Zappor, PO Box 39, St Julians, Malta, ☎ 440453 (AS33)

Maritime Amiga Club Maritime computing, interact with seafarers ashore on Amigas. Contact CDR K Osei, GN Ships Refit Office,

51 Rue de la Bretonniere, 50105 Cherbourg, France. ☎ 33 33225447. (AS33)

Navan Computer Club Software reviewing, graphics, business, news and chat. Meet various hotels in Navan, 7.30-9pm. Contact Mark Arnold, Cannistown, Navan, Co Meath, Eire ☎ 046 21078. Membership £6 per year. (AS33)

N Ireland Amiga User Free PD, disk-based mag £2.50 per issue. SAE to Stephen Hamer, 98 Crebilly Rd, Ballymena, Co Antrim BT42 4DS. (AS33)

Northside Amiga Group Lectures by professionals on different Amigas and associated hardware. Member demonstrations on serious software and games. Meets 8pm alternate Mondays, Donamede House, Dublin 13. Contact William Kelling, 10/A Rainsford Avenue, Dublin 8, Ireland ☎ 01 532 807. (AS33)

Royal Air Force Amiga Club Loads of new PD. Meets 1900-2000 hours, Thursdays, Blk 35, Room 40. Send 10 of your PD disks plus 2 x 24p stamps to Stan Young, HMF RAF Laarbruch, BFPO 43 ☎ 445. (AS33)

Singapore Sling Promotes Amiga in Singapore. Meet Eugenia Court, every Sunday 1pm. Contact Eric Chai ML, Block 4 #14-413, Pandan Valley, Singapore 2159, ☎ 65 4680630. Membership free. (AS33)

Software Exchange Club Free help and advice. Contact Michael Lacey, Fern's Post Office, Enniscorthy, Co. Wexford, Republic of Ireland. (AS35)

Worldwide PD Club Over 4,100 disks - send blank disk and SAE for catalogue. Membership DM60 a year or DM6 a month. Contact Dave White, Berliner Str 39, 40880 Ratingen 1, Germany ☎ 02102 499729 (Germany). (AS35)

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AMIGA POWER



**Take it home and cuddle it
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Two years ago Future Publishing – publisher of this very magazine – hosted the World of Commodore. Last year the show grew to become the Future Entertainment Show, and now this year it's back, incorporating a special section: World of Amiga.

At the show you'll find dozens of stands demonstrating hardware and software – and selling at the best prices around. Exhibitors like Gasteiner, Power Computing, Digita and Supra will be showing off their latest products. And of course there will be Commodore, showing its full product range. You might even find a game or two, if you look hard!

The show is at Olympia from November 11th to 14th, and getting a ticket is as easy as picking up the phone – call 051 356 5085. Tickets cost £6.95 and are only available in advance – family tickets admitting two adults and two children cost £24.95. If you book for the 12th you'll get a free ticket for Aladdin!

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It's only words...

Ermest Hemingway advised that the most essential gift for a good writer is a built-in shock-proof shit-detector. Every writer who has ever been published has one of these – it is called *The Sub-Editor*. But if there is one thing guaranteed to push *The Sub-Editor's* shock absorbers down to the metal it is grammar. Or rather, incorrect grammar.

Published writers are lucky to have such an error corrector, but if they take it for granted they very soon find themselves looking for another publisher. Similarly, anyone who has a job that involves writing reports, business letters, or even a lot of memos, isn't going to stay in that job very long if they write like what Ernie Wise do.

Proper Grammar II, which requires a hard drive, is from the makers of *Pen Pal* and *Final Copy II*, and is an attempt to provide writers with a computerised safety net. The concept is simple. You write your

If you don't know your passive voice from your inappropriate preposition, Jeff Walker wonders if a computerised grammar checker can be much help.

text. You run it through *Proper Grammar II*. *Proper Grammar II* complains copiously. You correct the mistakes.

RIGHTING WRONGS

Proper Grammar II checks for a large number of writing errors, including incorrect grammar, incorrect punctuation and incorrect spelling.

It also has checks for highbrow stuff like non-standard expressions and modifiers, weak qualifiers, inappropriate prepositions, noun phrase consistency and open/closed spelling. It can recognise multiple negations and tell you when you have used a hackneyed expression (a cliché), or jargon, or a word that is often misused or overused. It knows all about pronouns and possessives and pretentious phrases. The list

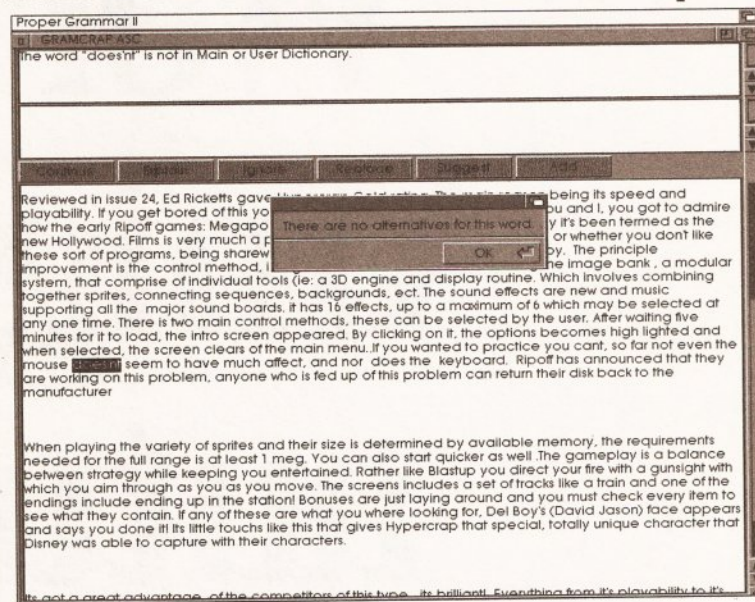
goes on. *Proper Grammar II*, it says on the back of the box, takes the guesswork out of good writing by detecting 95% of all writing errors, identifying and correcting embarrassing mistakes, making it a valuable

Paragraphs		Sentences		Noun/Verb Groups	
Total	6	Total	33	Simplex Verb Groups	77
Avg. Sent.	5.50	Word Length	16.60	Complex Verb Groups	2
Words		Simple	15	Simplex Noun Groups	184
Total	548	Complex	18	Complex Noun Groups	27
Avg. Syll	1.47	Passive	0.33		

Readability		
Flesch Reading Ease Score	66.04	Standard
Flesch Reading Ease Grade Level	8.33	7th - 8th Grade
Flesch-Kincaid Score	7.82	
Gunning's Fog Index	9.59	

OK

These Readability figures, which are calculated from the statistics above them, are an attempt by our American cousins to bring some objectivity to a highly subjective decision. A load of hogwash, in other words.



***Proper Grammar II* offers no help at all with "does'nt", a very common misplacement of the apostrophe when attaching the contracted form of "not" to the end of the verb. Nor could it work out that "Thats" might be the contraction of "That is" with the apostrophe missing – one of the most common punctuation errors that writers make. If it can't spot these common problems, one has to wonder how useful *Proper Grammar II* is going to be.**

proofreading tool designed to improve writing.

Poppycock! This makes it sound as if you can write any old tosh and then run it through *Proper Grammar II* to knock it into shape. So that's

what I did. *Amiga Shopper's* sub-editor, Alex Soboslay, who has a wider experience than me of common writing errors, wrote a short piece of text that is wonderfully wicked, containing hundreds of classic

FOR EVEN PROPERER GRAMMAR...

ENGLISH GRAMMAR

Author: Collins Cobuild

ISBN: 0 00 370257 X

Publisher: Harper Collins, 77–85 Fulham Palace Road, London W6 8JB

Price: £8.50 (paperback, 486 pages)

While a computerised spelling checker adequately replaces a traditional dictionary for most people's needs, and while an on-line thesaurus can be more convenient to use than Roget's hallowed tome, software grammar checkers have not yet reached the stage where they are able to understand the context of words, and as a consequence tend to make tentative suggestions rather than confident corrections.

These suggestions can often only be understood by someone who has a fairly good working knowledge of English grammar. Yet software grammar checkers are touted as the easy way for shoddy writers to improve their

English. The concept is flawed. Any teacher will tell you that the quickest way to *prevent* someone learning something is to continually find fault with what they are doing. Praise is needed as well as correction, or at least some indication when they have got something right.

Now I'm not suggesting that a software grammar checker should put red ticks down your work and an "A+" at the end, but I am saying that using a software grammar checker as a crutch is possibly the worst thing that anybody interested in writing could do. If your English grammar needs brushing up and you haven't got the time or money to take a course, then buy a book.

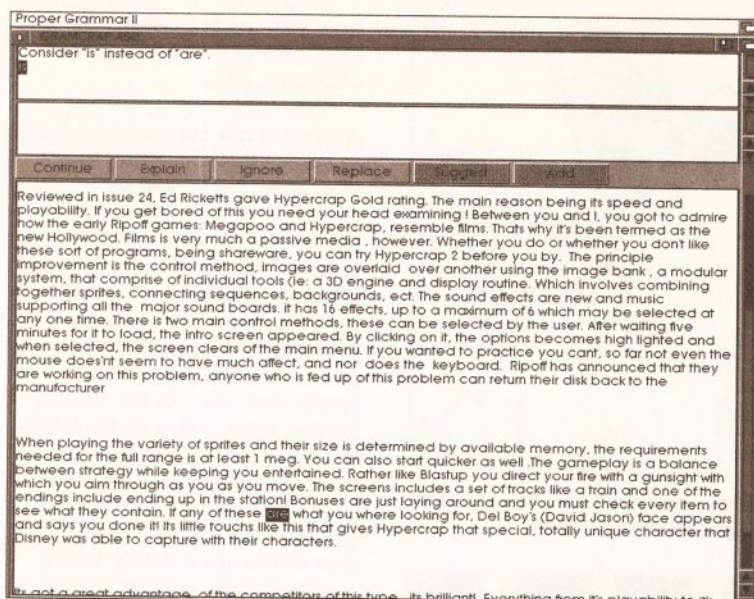
English Grammar, first published in 1990 and now in its third reprint, is produced by Cobuild – the Collins Birmingham University International Language Database – following a detailed study of present-day English. Many millions of words, spoken and written, were gathered into the huge Birmingham Collection of English Texts and

analysed, partly by computer and partly by a team of expert compilers. The book attempts to make accurate statements about English as observed in this study. The main patterns of English are picked out and described, and the typical words and phrases found in each pattern are listed.

Although there are no exercises in it, you could work through the book chapter by chapter because it begins with the simple stuff of words and gets progressively more conversational. Thanks to a large glossary of grammatical terms and an excellent index, the book can also be used as a reference for when you are unsure whether it is "who" or "whom", "its" or "it's", "less" or "fewer" and so on and so forth.

The most important point about this book is that it is not stuck in the past. It presents a completely fresh description of the language, concentrating on the *real* patterns of use in today's English, with thousands of spoken and written *real* English examples.

Jeff Walker



Proper Grammar II has assumed that "If any of these..." means "If any [one] of these...", whereas it could just as easily mean "If any [number] of these...", so whether "is" or "are" should be used depends on whether "any" should be regarded as singular or plural here. It doesn't bother to explain this. However, it has to be said that if you were a grammatical purist you would probably appreciate being alerted to this particular breach of your rules.

mistakes. Prose this bad is going to confound all but the very best of sub-editors. I didn't expect too much from *Proper Grammar II*. Even so, I was appalled by its inadequacy.

The first few words of Alex's piece read thus: "Ripoff could'n't of chose a worst time to release ...". *Proper Grammar II* complained about "Ripoff" not being in the dictionary. Fair enough, it's a company name. It complained about "could'n't" not being in the dictionary and couldn't suggest an alternative, the misplaced apostrophe completely throwing it. It sailed right past "of chose", which should properly be "have chosen", and right past "a worst time". For heaven's sake! There cannot be "a" worst time because it implies that there may be other worst times, which is impossible because "worst" is a superlative denoting the highest degree of "worse-ness". There can be only "the" worst time, although in this case the phrase in our text should properly be "a worse time".

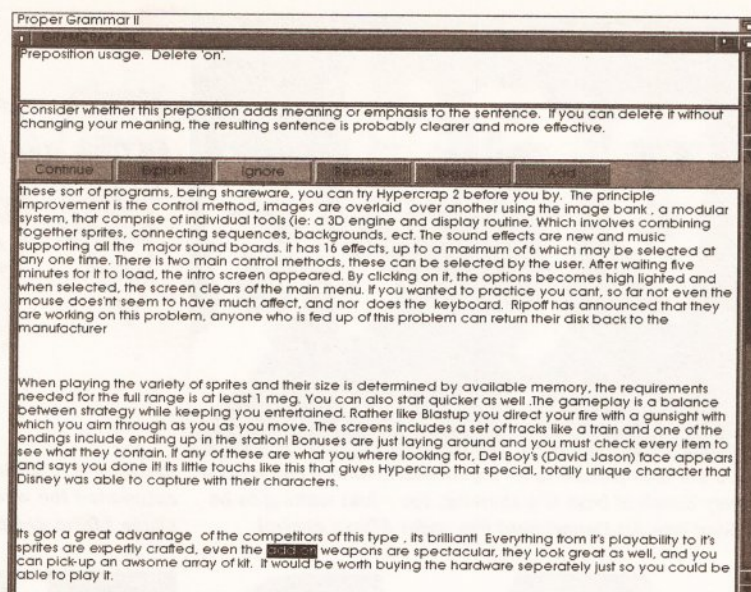
It was the same story all the way through the text. To call it a failure

would be like calling Hiroshima an explosion. It missed the most glaring errors of usage, and was completely unable to cope with something so common – and so simple – as misplaced apostrophes.

SAME OLD STORY

Perhaps this passage was just too much for it. I ran some of my own text through *Proper Grammar II* and it continually suggested that "This main clause may contain a verb in the passive voice". May contain? Well does it or doesn't it? How do I know? The brief example given by the program is not much help, and I am advised to used a more direct verb. What's one of those?

Okay, I'm being deliberately obtuse. I know about passive and active voices. And I know that writers who know their job deliberately use the passive voice to vary the sequence of events in a clause – to talk about the event from the point of view of the thing or person affected, and often to deliberately avoid mentioning who or what was responsible for the action. To



Considering that the word "the" can only precede either a noun, a superlative adjective, a general determiner or a number, and considering that the word "add" can only be used as a verb, Proper Grammar II really should have queried the use of "the add" in this sentence. And considering that the program has missed the sense of the phrase completely, is the general pre-programmed message it gives going to be any help to you?

suggest that the passive voice should never be used "because it can make a document unclear" – which in effect is what *Proper Grammar II* is doing by complaining about every passive verb – is like suggesting you shouldn't cross the street in case you get run over.

Proper Grammar II makes these stock suggestions – and there are very many more of them – because it is impossible for it to understand the context of a piece of writing, or the meaning of the phrases and sentences it is scanning. It does the best it can, but its best is nowhere near good enough.

At first I suppose it might be a bit of fun to have your Amiga criticise your work, but after the novelty has worn off, *Proper Grammar II* soon becomes a nuisance, then a hindrance. If your grammar needs improving, buy some text books, invest in an English course or two – there are even some computer programs that teach grammar.

Proper Grammar II lives, and dies, by a set of rules that, while scientific and deeply researched, are

way too rigid to be applied to a living, creative language. **AS**

SHOPPING LIST

Proper Grammar II£39.95
By SoftWood Inc, PO Box 50178,
Phoenix, Arizona 85076, USA.

Distributed in the UK by
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Computers, New Street,
Alfreton DE55 7BP.
☎ 0733 836781

CHECKOUT PROPER GRAMMAR

Features

● ● ● ● ● ● ● ● ● ●
An impressive list of features hides the fact that the software only makes suggestions, leaving you to work out what to do from the brief explanations.

Documentation

● ● ● ● ● ● ● ● ● ●
The manual is well-presented but of little relevance because the software is so easy to use.

Ease of Use

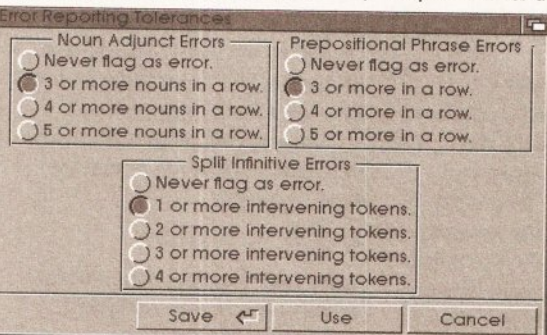
● ● ● ● ● ● ● ● ● ●
Nothing to it really.

Value for Money

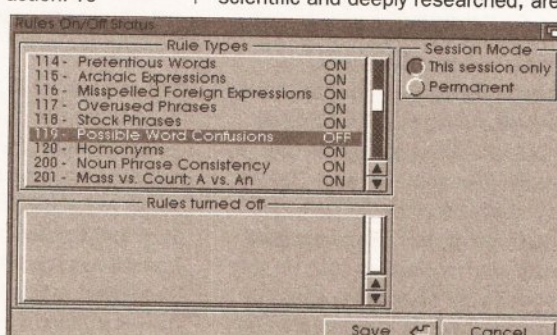
● ● ● ● ● ● ● ● ● ●
A top-class book on English grammar will cost under £10 and will be infinitely more useful.

Overall rating

● ● ● ● ● ● ● ● ● ●
It's like a legless man trying to teach running. He may know the theory, but ask him to show you how to do it...



If you know enough about English grammar to be able to intelligently select options from this panel, then you probably don't need Proper Grammar II in the first place.



Any of the program's comprehensive list of grammatical rules can be switched off, helping eliminate irritating messages about "errors" that aren't really there at all.



Here's a nice picture in its unprocessed form – and what a lovely bunch of boys it's showing, too – just waiting to be loaded into Art Department Pro under ARExx control.

And here it is again in its processed form. ARExx automated the whole thing – you don't have to click on a single ADPro gadget to get this sort of result!

AREXX FOR ALL

Link ARExx up to Art Department Professional and you can automate image processing operations. Jason Holborn shows you how to take control.

Having whetted your appetite for power in Issue 28's ARExx column, I'm now going to show you the details of how to get ARExx to control your applications via their communication ports. Judging by the many letters that we receive on the subject, it seems obvious that Art Department Professional is the one application that most ARExx users want to automate, so I thought it would be a good idea to start with that program.

So what aspects of ADPro, as it's affectionately known, can ARExx automate? Well, the simple answer to that is everything. If there's a single option from within ADPro that you can control manually by clicking on gadgets with the mouse, then it can be controlled equally well through an ARExx script. You may be wondering why you would possibly want to automate ADPro – after all, it's a fairly straightforward program that doesn't require too much work to use anyway, so there seems little point. Try using ADPro to carry out the same image processing task on

more than one file, though, and you'll soon come to realise the benefits automation offers.

Take a fairly everyday image processing task such as converting an image between formats. As any experienced ADPro user will tell you, this can be a rather tedious task if you have to convert a whole batch of images. Okay, so all you have to do is to select **load**, click on the picture you want, load it in and then save it out using the new file format and Bob's your uncle. But try this on several files, and take into account the time spent waiting for the loading and saving, and you've got yourself a rather tedious task. So why bother when ARExx can do it for you? You can simply write an ARExx script that does all this automatically, leaving you to get on with something more productive (like reading *Amiga Shopper*, for example!). What's more, automating with ARExx can actually speed up the whole process – because you no longer have the hassle of having to click on gadgets manually, ARExx can get on with the job without having to wait for you to tell it what to do.

GIVING ORDERS

Let's start this look at automating ADPro with a little demo script – it's not very exciting, but it does illustrate the point. What it does is take the filename of an image from the command line and then load it into ADPro, convert it to a greyscale image and then turn it into line art before finally saving it back out to disk with a **.new** extension. Here's

continued on page 85

BEGINNERS

BEGINNERS START HERE

BEGINNERS

What is ARExx?

ARExx is a programming language supplied free with all Amigas using version 2 and upwards of Workbench. It is an interpreted language, meaning that each line of an ARExx program is translated into a form the computer understands as it is executed. As a result, ARExx isn't the speediest of languages, but it more than makes up for this by being easy to use.

What are its advantages?

ARExx's principal advantage over other languages is its ability to control other applications that are running on your machine. If such an application has an "ARExx port", then your ARExx program can send commands to it via this port. These commands can simulate mouse movements and clicks, and key-presses, meaning you can automate repetitive tasks that would otherwise require your

supervision. For instance, you could write an ARExx program that would load a succession of images into Art Department, manipulate each one in turn and then save the results out. While the programs were running, you could wander off and make a cup of tea, or even run another, totally independent program. With ARExx you can take full advantage of the Amiga's multi-tasking abilities.

How do I get it to work?

First, a program called REXxMast must be running – this is the "interpreter", the program that looks at each ARExx instruction in turn and carries out the relevant operations accordingly. You'll find REXxMast in your System drawer. To set it going, just double-click on its icon.

If you're going to be using ARExx a lot, then you'll want

RExxMast to run every time you switch your Amiga on. To do this, just drag the icon into your WBStartup drawer.

How do I create ARExx programs?

ARExx programs are entered using a text editor. The program Ed, supplied with your Amiga, will do fine. Just open the Shell, type Ed followed by the name of the file you want to create, and type in your program. It's a good idea to add ".rexx" to the end of your ARExx filenames, just to remind you that they are ARExx programs.

Once you've written an ARExx program, you can run it from the Shell by typing:

```
RX name_of_program
```

If, for example, your program was called example.rexx and you'd saved it on your RAM disk, to run it you would type:

```
RX RAM:example.rexx
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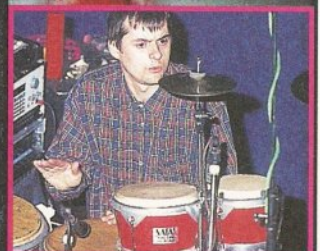
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CAN YOU DIG THE SCREEN SCENE?

One of the most important panels in *ADPro* is its **Screen Controls** panel, which enables you to specify the type of screen and the number of colours to be used when the raw image data that *ADPro* works upon is rendered into a displayable image. *ADPro* offers a couple of commands that enable these settings to be controlled via ARExx.

The first of these is **RENDER_TYPE**. It enables you to specify the number of colours to be used. Under *ADPro* versions 2.1 or greater, the render type can be set to 2, 4, 8, 16, 32, 64, 128, 256, EHB, HAM, HAM8 or CUST modes. Note that not all of

these render types can be displayed on some Amigas. (Standard Amigas can only display up to 32 colours, EHB and HAM modes, although AGA machines are capable of displaying the full range of modes on offer.) To change the render type to AGA HAM8 mode, your script would need to contain the line **RENDER_TYPE HAM8**.

The screen type can also be controlled using the slightly more complicated **SCREEN_TYPE** command. **Screen Type** expects to be fed a number between 0 and 31. This number acts a little like a binary number – each “bit” turns a particular screen attribute on or off. Here’s how the number breaks

down into its component parts:

```
HI-RES = 1
INTERLACE = 2
PAL = 4
HORIZONTAL OVERSCAN = 8
VERTICAL OVERSCAN = 16
```

In order to specify the screen type you want, all you have to do is to add up the numbers that correspond to the screen attributes that you need. To force *ADPro* to use a low-resolution, interlaced screen in PAL format, you would pass a value of **6** (from 2 + 4). Note that the absence of a **1** causes *ADPro* to switch to the default low-resolution mode.

The symbol  means do not type a return – keep typing to the end of the next line.  means type a space, then keep typing to the end of the next line.

symbol to reverse the action of the **if...then** control structure so the code within the structure is

executed if the file is *not* found. In this particular case, the script throws up a “file not found!” error message and quits. It always pays to code scripts with error checking.

By now, the script knows that everything is hunky-dory, so it establishes a link with *ADPro* using the **Address** function that we discussed in AS 28. For the uninitiated, this function simply tells ARExx to open a communications channel between our script and *ADPro* so that we can start giving *ADPro* orders from within our script. We don’t really need to check whether this operation was successful, because we checked to see whether the port existed earlier – if something *does* go wrong at this point, then you’ve got serious problems!

LOAD OF OLD PIXELS!

Once our script has managed to establish a communications link with *ADPro*, it can now start to send the program commands. Obviously the first thing we need to do before *ADPro* can start to strut its stuff is to load an image. Before we can do this, though, *ADPro* needs to be told the format of the image by changing the **load operator** to the one that we want to use. The *ADPro* command to do this is **lformat**, which – not surprisingly – is short for “load format”. The **lformat** command doesn’t actually load a picture though: all it does is change the type of loader that *ADPro* will use when it pulls the image in.

Now we load the image using the *ADPro* **Load** command. It’s a pretty self-explanatory command that needs only to be fed the filename of the image that it should load. In this

particular case, the filename is held in an ARExx variable called **filename**. Obviously our script depends heavily on the user feeding it the filename of a valid IFF file. If you give it the filename of a file that isn’t in IFF format, then *ADPro* will complain when it tries to load in a picture. If you want to make absolutely sure that the user is trying to load an IFF picture, you could try encoding the IFF checking script that we covered in AS 25 (there, I knew we’d find a use for it eventually!). Finally, our script then puts up a little message telling the user that the file was loaded successfully. (This sort of thing is always a good idea because it keeps the user informed of progress!)

Now let’s get down to some image processing! Looking through our script, you may have noticed that both of the image processor operators that we use (**COLOR_TO_GRAY** and **LINE_ART**) aren’t called directly. Instead, each is preceded by the instruction **operator**. Because *ADPro* is completely modular, its operators aren’t actually built into the main program. As a result, it’s necessary to transfer control from *ADPro* to the operators using the **operator** command.

In the case of our script, two operators are required – **COLOR_TO_GRAY** and **LINE_ART**. Although the line art operator does all the hard work, it only works on 8-bit grey scale images, so we need to call the **COLOR_TO_GRAY** operator first to convert colour images to grey scale. Most *ADPro* operators provide some form of control, but I’ve deliberately picked two of the most straightforward ones just to keep things nice and simple. We’ll be moving on to the subject of controlling operators next month.

Finally, the *ADPro* **execute** command is called. It behaves

exactly as if someone clicked on the **execute** gadget within *ADPro* itself. If you want the image to be saved out in a format that can be viewed on a standard Amiga, then this should always be called once all image processing tasks have been performed. For a more detailed explanation of how to control the screen format used by *ADPro*, check out the box above.

EXTENSION RELIEF

Once the image has been successfully converted to greyscale and then turned into line art, we need to save it out to disk. You could change the script so that it takes the new filename from either the command line (just use **arg(2)**) or – for a more interactive script – so that it asks the user directly using the ARExx **pull** function. I personally prefer to simply append an extension onto an existing filename because it makes life much easier if you’re using a script to convert several images. Our script appends a **.new** extension onto the existing filename using the ARExx **insert()** function, which (in its simplest form) appends the second string to the first.

Finally, our script sets the save format using the *ADPro* **sformat** command and then saves the image out to disk using the **save** command. Note the **IMAGE** parameter tacked onto the end of this command.

Because *ADPro* allows us to save several different types of data with its various different save operators, we need to specify the type that we’re interested in. Although this changes between savers, the three most common data types are **RAW** (for *ADPro*’s own internal raw image data format), **IMAGE** (for rendered image data) and **SCREEN** (for saving only as much image data as will fit into the currently-defined screen type), whatever it may be. **AS**

continued from page 82
the script in all its ARExx glory:

```
/* Line Art Demo

Just feed it the filename of
an IFF picture...
*/

if -show(ports,'ADPro') then do
say 'ADPro is not running!'
exit
end

filename = arg(1)

if -exists(filename) then do
say filename 'does not exist!'
exit
end

address 'ADPro'

'lformat IFF'
'load' filename

say 'Picture loaded... 
now processing...'

'operator COLOR_TO_GRAY'
'operator LINE_ART'

'execute'

filename = insert(filename,'.new')

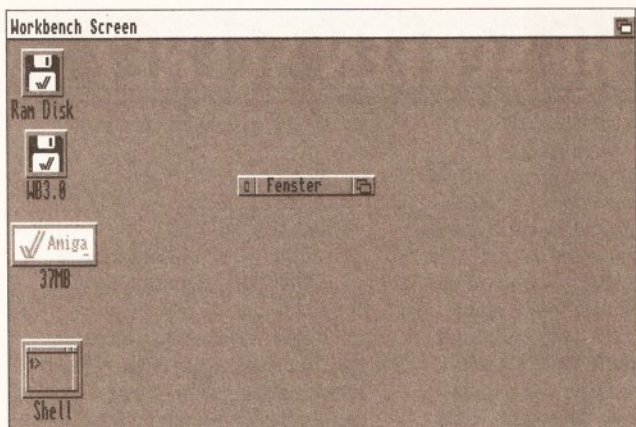
'sformat IFF'
'save' filename 'IMAGE'

say 'Job done. Picture saved 
as' filename

exit
```

This listing is fairly straightforward, but I’ll quickly go through the important points. The first thing the script does is check to see whether ARExx is actually up and running using the **show(ports,'ADPro')** command that we covered last month. Note the use of the **~** symbol – this is a **NOT** logic operation which reverses the action of the **if...then** structure. Instead of the code being executed within the structure if *ADPro*’s ARExx port is found, reversing the operation causes the code to be executed if the port isn’t found. This is needed to check that the user is actually running *ADPro* before running the script. (You’d be surprised how many people run ARExx scripts and forget to run the program that the script is designed to address! I ought to know – I do it all the time myself!)

Once the script knows that *ADPro* is actually up and running, it then reads the filename of the file that *ADPro* is to act upon from the command line using the **arg(1)** function that we covered in *Amiga Shopper* 22 (see page 108 if you missed this issue). Just to be absolutely sure, the script then checks that the file whose name the user has passed to the script actually exists – after all, if the file doesn’t exist *ADPro*’s going to get pretty stropky. To check for a file’s existence, we use the ARExx **exists()** function. Once again, we use the ~



The Shell icon – a gateway into the marvellous world of AmigaDOS. Just double-click on it to gain access.

AMIGADOS – A POTTED HISTORY

In the very early days, AmigaDOS was hurriedly developed from a system designed for mini-computers and written in BCPL. This caused no end of problems because BCPL is conceptually alien to C, the native environment used to develop the Kickstart operating system and Workbench. The two languages are like chalk and cheese and this led to some uncomfortable compromises.

The original disk filing system – the part that laid down information on the disks –

was slow and had a tendency to slap data down in an almost random fashion. This meant disks became fragmented very quickly and had a tendency to run slowly and noisily as the operating system retrieved sectors from all over the place. The only part of AmigaDOS to live in ROM was the **dos.library** and even that had to be loaded from disk on early machines.

All this made working with AmigaDOS a slow, tedious and sometimes nerve-racking process.

Introduction to the Shell

Mark Smiddy kicks off our in-depth beginner's guide to the Amiga's operating system.

You'll need very few extras to embark on this voyage of discovery. The most important are an open mind and a willingness to learn. A good reference manual may come in handy and at under a tanner *Amiga Format's Pocket Workbench & AmigaDOS Reference* is a bargain – turn to page 52 for details. Some knowledge of Workbench and its conventions is assumed, so if you're a bit rusty on that you may need to have the official manuals handy.

The thought of using AmigaDOS strikes fear into the most hardened of Amiga users. But fear is born from a lack of understanding, and the best way to overcome a fear is to

challenge it. In the course of this series I'll be looking at every release of AmigaDOS from Workbench 1.3 right through to the latest Workbench 3.0. If you are still being held back by Workbench 1.2, now would be a good time to upgrade. Workbench 1.3 is largely public domain now and there is so much information covering it that you don't need Commodore's official documentation.

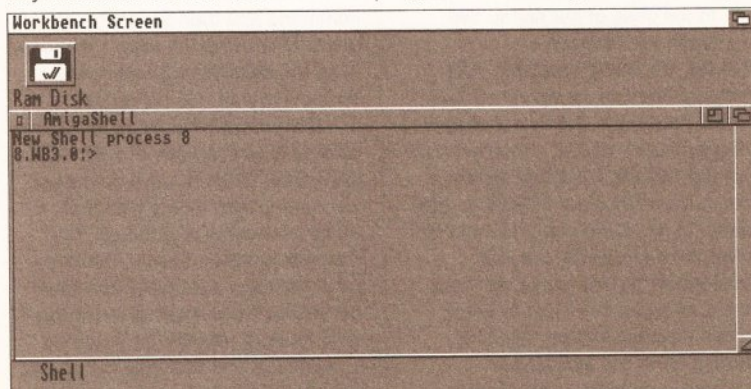
ITS PLACE IN THE WORLD

In strict pecking order AmigaDOS sits between the Workbench and the devices (disk drives, for example) and oversees the disk filing system. This has lead some people to refer to it, incorrectly, as a disk operating system. Disks are just one of many

TABLE 1: COMMANDS

Here we show some of the more useful AmigaDOS commands, along with their basic usage and details of the kind of arguments, if any, needed.

Command	Function	Required arguments if any
ALIAS	Display current aliases	–
ASSIGN	Display information on directory usage	–
CD	Change or display current directory	"Directory name"
COPY	Copy a file or files	FROM=<source> TO=<dest>
DATE	Display date and time	–
DIR	Get a sorted list of current directory	–
DISKCOPY	Duplicate an AmigaDOS disk	FROM=<dfx:>, TO=<dfx:>
DELETE	Remove a file or empty directory	"File or directory name"
ED	Start full-screen text editor	"File name"
ENDSHELL	Terminate the current Shell process	–
FORMAT	Format a new disk	DRIVE=<dfx:> NAME="Text"
INFO	Information on current devices	–
LIST	Detailed list of current directory	–
MAKEDIR	Create a new sub-directory	"Directory name"
NEWSHELL	Start a new Shell process	–
RESIDENT	Make a disk-loaded command RAM resident	"Command name"
VERSION	Give current version number information	–



When Shell is opened it displays the current Shell process number and waits for you to do something. Any AmigaDOS commands you enter will be run.

In those early days, AmigaDOS did little more than handle the disk filing system and was a less than friendly environment to work in. The command-line interface was dreadful, mainly because there was no provision for the most rudimentary line editing. If you made a mistake you had two choices: delete any extra characters or re-type the line from scratch. AmigaDOS commands could get quite lengthy and this was regarded as highly unacceptable.

The first major change was heralded by the release of

Workbench 1.3. This added a number of new commands and improved some others, a better filing system for hard disks and an improved command-line interface, called the Shell.

AmigaDOS 2 saw its first accessible public release in the A500 Plus. Most got a taste of the new system from the vastly improved Workbench, and few realised what improvements had been made to the system software running under the surface. At the heart of all this was a new AmigaDOS with many commands now built into the ROM

making it much easier to use and more powerful too.

The radical changes lost pace with the almost simultaneous release of Workbench 2.1 and 3. Workbench 2.1 is the AmigaDOS 3 version of the AmigaDOS software running on pre-AGA chips – so for most purposes the two are the same. The major difference between this release and the older versions was localisation of the entire operating system. Also, AmigaDOS running on a Workbench 3 machine gets yet another disk filing system option.

Just to complicate matters, the text **SYS** will only appear on 1.3 machines; on later model Amigas, this will be the name of your Workbench disk, so it may read:

6.Workbench3.0:>

This message is called a prompt. It is AmigaDOS telling you it's ready to process a command.

WHERE'S YOUR PROMPT?

The different prompts can become rather confusing to say the least, so we've adopted the following convention. If the text includes something to enter at your keyboard, it will be preceded by a standard prompt: **1>**. You must not enter this. If AmigaDOS's output is being shown, that will follow immediately on the lines below. AmigaDOS commands are shown in the text as capital letters – **DIR**, **FORMAT**, **LIST** and so on. Letter case is not important to AmigaDOS.

Some commands will generate a lot of text, and rather than us wasting magazine space, we'll indicate the continuation with ellipses "...". In most cases, displayed output will be from a typical set-up rather than *exactly* what you should expect, unless stated otherwise. Everyone's disks are different, so don't worry if your screens don't quite mirror the ones shown here.

By now you must be itching to get typing, so that's what I want you to do. Bearing in mind what has just been said about prompts, enter what follows on the next page:

devices handled by the Amiga – others include the serial port and printer, which suggests that DOS is really an acronym for Device Operating System.

AmigaDOS rides on the back of Exec, the Amiga's multi-tasking operating system executive. This means it can do two (or more) jobs at the same time without either knowing about the other's existence. This is only partly true of Workbench, because although you can format (initialise) two or more disks at the same time, Workbench will only copy one group of icons or launch one tool at a time.

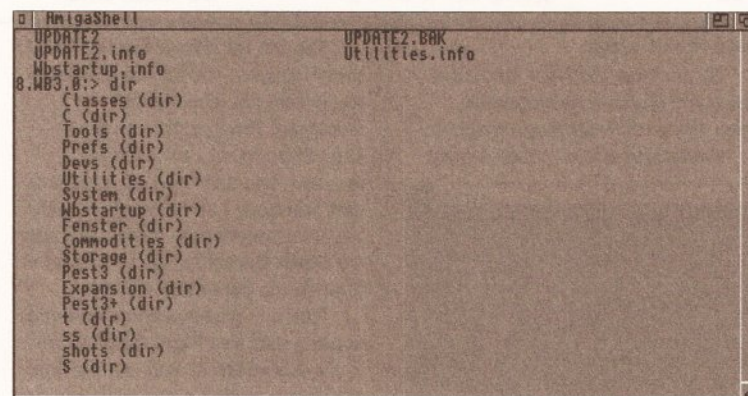
THE POINT OF IT ALL

Purists would argue that once you have a good understanding of AmigaDOS there is no need to use the Workbench. It is a fact that you can do a lot of things with AmigaDOS which you couldn't hope to do from Workbench; but the same is true in reverse. Many everyday tasks such as copying disks and files are more easily performed from Workbench and some developers choose to provide Workbench options that are not available from the AmigaDOS environment. AmigaDOS and Workbench complement each other perfectly and a good overall understanding of both will ensure you get the best from your machine.

THE DEEP END

Most AmigaDOS tutorials ease you in slowly and that approach has its advantages, but there is also something to be said for just diving straight in, and this is the approach we're going to take here.

There are two ways to reach AmigaDOS, but since this series will include Workbench 1.3, we'll take the direct route. (The other is via Workbench 2's **Execute** command.) AmigaDOS is all text-based, so if you are working on a monitor you should set your screen preferences to 80 columns; otherwise set them to 60. Workbench 2/3 users can identify this mode as PAL or NTSC Hi Res in



Commands such as **DIR** can generate a lot of output. This listing has been paused part way through to prevent it scrolling off the top of the screen.

the **ScreenMode** Preferences tool.

Boot Workbench from a copy of the original floppy (do not start from hard disk) and open the icon marked **Shell**. You'll find that Shell is located in the main Workbench window. The Shell program will open with a message to the effect: "New Shell

process *nn*" where "*nn*" is some arbitrary process number. The actual number is not important at this stage – let's assume it was "1". Below that you'll have a small text message that says something like this:

1.SYS:>

TABLE 2: KEYBOARD SHORTCUTS

Below are the keyboard shortcuts you can use to edit command lines while working in the Shell.

Key(s)	Action
<Up cursor>	Go back one line of history.
<Down cursor>	Go forward one line of history.
<Left cursor>	Move cursor left one position.
<Right cursor>	Move cursor right one position.
<SHIFT-Left curs>	Move to start of line.
<SHIFT-Right curs>	Move to end of line.
<SHIFT-Up curs>	Search back through history (same as <Ctrl-R>) – see text
<SHIFT-Down curs>	Delete current line (as <Ctrl-X>)
<Backspace>	Delete character left of cursor.
	Delete character under the cursor.
<Ctrl-A>	Move cursor to start of line.
<Ctrl-B>	Go to the last command in the buffer.
<Ctrl-C>	Abort current command.*
<Ctrl-D>	Abort current script.*
<Ctrl-E>	Send break-E to current command.*
<Ctrl-F>	Send break-F to current command.*

<Ctrl-G>	Send a "bell" to the terminal.
<Ctrl-H>	Same as <Backspace> key
<Ctrl-I>	Same as <Tab>
<Ctrl-J>	Line feed.
<Ctrl-K>	Not the same as <Return>.
<Ctrl-L>	Delete from the cursor to end of line.
<Ctrl-M>	Clears current Shell/CLI window.
<Ctrl-Q>	Perform a <RETURN>
<Ctrl-R>	Pause a scrolling display.*
<Ctrl-S>	Finds a line based on current line.
<Ctrl-U>	Restart a scrolling display.*
<Ctrl-W>	Delete from cursor to start.
<Ctrl-X>	Move cursor to next tab stop.
<Ctrl-Y>	Delete whole of line.
<Ctrl-Z>	Move cursor to end of line.
<Ctrl-\>	Marks end of file (and closes Shell**)
<Left-Amiga-C>	Copy marked text to the clipboard.**
<Left-Amiga-V>	Paste text from the clipboard.**

* Running commands or scripts only

** Shell 2 and higher.

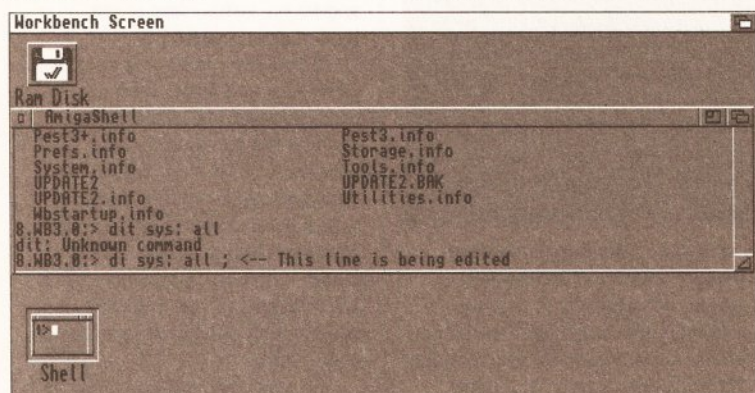
1>DIR SYS: ALL

You'll see what I mean about a lot of output. You can also get a sense of how slow AmigaDOS disks can be, unless your machine is fitted with a hard disk. If you are still working with your hard disk, stop now. Boot Workbench from a *backup* (it's very important to use a backup) of the original floppy disk and work from that – it's all too easy to make a simple mistake and wipe all the information your hard disk.

Table 1 on page 86 lists some of the common AmigaDOS commands. Pick a few out (ones that don't require arguments) and enter them, just to see what happens. If you make a spelling mistake, AmigaDOS will complain. For instance, enter:

1>DIT SYS: ALL

AmigaDOS will reply:



Even if you make a mistake, Shell will allow you to go back to the line and edit it afterwards. A press of the <up cursor> key is all it takes to get it back.

DIT: Unknown command

Although AmigaDOS gives you an error message, nothing more serious happens. You cannot hurt anything by experimenting so long as you are careful to avoid commands that are potentially disastrous: **DELETE** and especially **FORMAT** are ones to

avoid at this stage.

By the time you have entered a few commands you will probably have made a few spelling mistakes or "syntactical errors". Shell's most

important feature – and the essential one to learn at the outset – is the command editing and history. Table 2 contains a full list of the keyboard shortcuts; it is provided here in full detail for you to cut out and keep. To finish off this month we'll examine some of the simple and more useful facilities of Shell's command editing.

TABLE 3: USEFUL ALIASES

This shows a collection of useful aliases that I use frequently. Just add them to your Shell-startup-file to make them available whenever you boot up. They provide handy shortcuts for many often-used command sequences.

Name	Function	Usage	Example
FN	Short for FileNote	FN <File> <Label>	FN Abc "A file"
MD	Short for MakeDir	MD <new directory>	MD Directory
Del	Short version of Delete	DEL <file, dir or pattern>	Del RAM:#? ALL
TD	Label "this directory"	TD [label]	TD A
PD	Go to previous dir.	PD [label]	PD A
Script	Set script bit on a file	Script <file>	Script SPAT
Safe	Protect a file from deletion	Safe <file>	Safe C:DELETE
Unsafe	Make a file deletable	Unsafe <file>	Unsafe C:DIR
QF	Format a disk	QF <drive number>	QF 0
DC	Backup disk to drive 1.	DC <dest. drive>	DC 0

Tap the **Up Cursor** key and watch what happens: the last command you entered is recalled and displayed. Tap it again and the second from last command is recalled. You can keep on doing this until you have been through all your previous commands. As you'd expect the **Down Cursor** moves you forward through the command history.

Pick any previous command and use the **Left** and **Right Cursor** keys to move through it. You can position the cursor (a little blob) anywhere on the line with these. You can then insert new letters or, with the **Backspace** key, delete old ones.

Consulting Table 2, you will note the keyboard command <Ctrl-X> (this means hold down the X key and the key marked **Ctrl** simultaneously) deletes the entire line. Try that now: hold down the **Ctrl** key and press **X**. Now enter **DIR** and press <Ctrl-R>. If you have followed things correctly up to now, the last entry using **DIR** will appear. For example:

1>DIR SYS: ALL

Also by consulting Table 2, use the editing keys to modify this line until it

reads as follows:

1>LIST DEVS:

then press <Return>. This will list the contents of the **Devs** drawer on your Workbench disk. **LIST**, you will notice, is similar to **DIR** in that it displays the contents of a directory. The difference is that **LIST** gives a lot of extra information along with the contents (sizes of files, for example), whereas **DIR** collects the names of all items and shows them as a sorted listing.

A WORD ON LEARNING

AmigaDOS is not so much complex as it is interwoven. In order to learn about "A" you have to appreciate "B", but to understand "B" you need prior knowledge of "A". For this reason I recommend that you read quickly through each article and identify the parts that you know. Next, go back through the parts you don't understand and try to perceive them in context.

You'll build up a picture, piece by piece, just like a jigsaw puzzle – remember that each part has a place, even if it seems somewhat unconnected at any stage. You have to consider that the whole is the sum of the parts, no matter how detached those parts may seem now.

In order to gain an understanding of AmigaDOS you have to examine each aspect in detail and then take a few steps back and study how it fits into the overall picture. But don't expect too much of yourself at this stage – you'll soon get the hang of it.

It's important not to get discouraged. It can all seem very confusing at first – it does to us all – but rest assured that with a bit of time and effort it will all fall into place. You'll be entering Shell commands and writing AmigaDOS scripts with the best of them.

Next month, I'll discuss how the commands I've introduced work in more detail and I'll explain how to get AmigaDOS to teach you. **AS**

AMIGADOS MASTERCLASS

ALIAS is certainly one of the most useful commands in the Shell, but we rarely share good examples with each other. Some people seem to think **ALIAS** is only good to assign a short name to a long command, for example **F = FORMAT**, **C = COPY** and so on. Commodore aren't much help – the only standard **ALIAS**es supplied with AmigaDOS are **XCOPY**, which merely adds the **CLONE** switch to the standard command, and **CLEAR** to clear the console window – hardly the sort of things you would use daily.

Here is a small selection of useful aliases and descriptions of how to use them. These are best added to the end of your **S:Shell-startup** file, ensuring they are available all the time. Table 3 on this page shows these in use and most should be fairly self-explanatory.

TD and **PD** do need some further clarification: **TD**

(This Directory) marks the current directory (with an optional label) and **PD** (Previous Directory) takes you back there. This pair of aliases complement each other and there is no limit to the number of labels you can use. Directories can be anywhere, even on different disks. You can use **ASSIGN** without arguments to see where each label is pointing.

```

ALIAS FN FILENOTE
ALIAS MD MAKEDIR
ALIAS Script PROTECT S:[ ] +s
ALIAS Safe PROTECT [ ] -d
ALIAS Unsafe PROTECT [ ] +d
ALIAS Del DELETE
ALIAS TD ASSIGN DIR_[ ]: ""
ALIAS PD CD DIR_[ ]:
ALIAS QF FORMAT DRIVE DF[ ]: NAME Empty
ALIAS DC DISKCOPY FROM DF[ ]: TO DF1:
    
```


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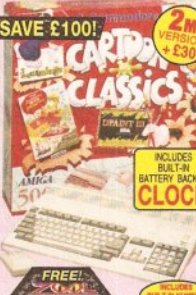
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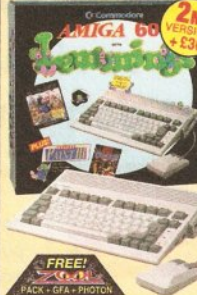
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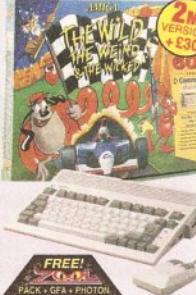
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Window SHOPPER

In which we review, not windows, but those Amiga-related products that we just don't have room to cover elsewhere in the magazine...

THE COMMERCIAL GAMES PROGRAMMER'S GUIDE - 2nd EDITION

From: Kuma Books Ltd
 ☎ 0734 844335
ISBN: 07457 00155 8
Price: £9.95 (Paperback, 138 pgs)

The Commercial Games Programmer's Guide by David Gibbon purports to explain the techniques required to produce a saleable commercial game across a range of platforms – Amiga, ST, Spectrum and Amstrad. In reality it conspicuously fails to deliver what is promised.

I read my first book on computers in 1971 and since then have perused many hundreds, if not thousands, of volumes. Gibbon's book is easily the worst that I've had the misfortune to encounter. The style is at its best poor, at its worst illiterate. You get no further than the fourth page before you come across an impenetrable 107-word sentence – and this little gem: "Each instruction is called a mnemonic, pronounced mnemonic which actually means the Greek Goddess of memory". Hmm. Not really much the wiser are we. Besides, just for the record, the Greek goddess of

memory was actually Mnemosene.

Now, this may seem to be a trifle on the pedantic side. It is, up to a point. But good programming, like good writing, demands precision and rigorous thinking, and if the writing doesn't come up to scratch how confident can you be about the programming? Worse still, sometimes it is very nearly impossible to make sense of what is being said in the first place.

Despite the howlers that litter this thin volume, it could have redeemed itself if it had supplied the insightful information which the back cover would lead you to believe it contains. This promises a little less than the title *The Commercial Games Programmer's Guide*, saying, "It is not designed to teach you how to program, but to

give you tips for programming games in the commercial world." However, it once again fails to deliver. Its advice on the design, coding and marketing of games is so superficial as to be almost worthless.

The first four chapters are devoted to a greatly simplified overview of the development stages of a commercial game. The book contains a "worked example" of the shell of a putative game, "Spacewars". Unfortunately, the example is so perfunctory that it really does nothing to

communicate the techniques

that lie behind the art of games programming in the real world.

There's a chapter devoted to business planning and cashflow forecasting. Again this contains a paucity of information. Anyone

wanting to explore the possibilities of setting up their own business would be well advised not to base their planning on what they can glean from this book. A further chapter deals with marketing games. Like the previous sections, it too contains only a sketchy and superficial overview. Practical advice is conspicuous by its absence.

The final sections of the book are dedicated to providing a range of useful contact addresses for the prospective games programmer. This is the most valuable section of the guide, but it would be difficult to recommend that the aspiring programmer should purchase Gibbon's book solely to obtain this information. You could find most of it equally easily simply by perusing the pages of the various Amiga (and other computer format) magazines which one would assume any budding programmer should already be reading.

Amiga Shopper Verdict: In our opinion a very poor book. If you're after tips and advice on producing saleable computer games, then save yourself a tenner – you won't find the information you're after in the pages of *The Commercial Games Programmer's Guide*. (GC)

WORD POWER v2

From: Steve Rennocks
 ☎ 0922 414731
Price: £9.95

Word Power is a program that will appeal immediately to all those crossword or word puzzle fiends who find that they need a helping hand.

While previous versions of the program were available as shareware, this new and significantly rewritten version is being marketed directly by the author, Steve Rennocks, for £9.95.

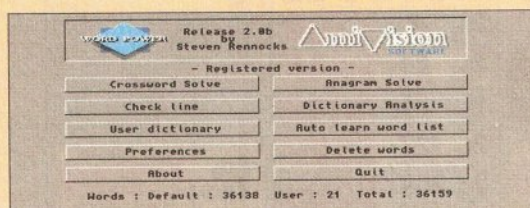
At the heart of the package is a dictionary file. This will be a familiar concept to word processor users who use spelling checkers on their copy before it hits the printer to make sure that no typos sneak through unnoticed. *Word Power v2* doesn't itself include a spelling checker – although the earlier

shareware versions did. Feedback from users of those versions told the author that this was a rarely-utilised feature in his product.

The two main functions of *Word Power* are for "solving" crosswords and anagrams. We've put the word *solving* in inverted commas because we wouldn't want to give the impression that the program will puzzle away at cryptic clues for you – that would represent a major breakthrough in the field of machine intelligence and natural language understanding, which would make the author a very wealthy man indeed. Instead, *Word Power* searches through its dictionaries looking for words that will fit a "skeleton" that the user supplies. For example, searching under the crossword option using

the skeleton "s**d" will offer up the words *shed*, *shod*, *skid* and *slid*.

When it comes to sussing out anagrams, you simply enter the



2 Down: Running this program over text you've typed would only redo WP row. (Two words, 4 and 5)

jumble of letters that comprise the word to be found. *Word Power* then searches through the loaded dictionaries to see if any words exist that contain the exact match for the supplied letters. Be warned, if you're using a long dictionary file this may take some time.

Included on the *Word Power* disk is a 17,000-word dictionary to get you started. You can replace this with one of your own – provided that

it is in ASCII format and that each word starts on a new line. There are a number of suitable dictionaries available as PD – indeed, we gave one away with the *AZSpell* package that was included on the cover disk with *Amiga Shopper 25*. (Here's one for puzzle fans, then: Arrange these words into a sentence: back issues page 108 order can you on.) In addition to this main dictionary, *Word Power* will also search through a further user dictionary that you supply. This gives you the option to create a number of short dictionary files to cover specific subect areas.

It has to be said that the documentation that accompanies *Word Power* is a little sparse, consisting of just three photocopied A4 pages. This shouldn't prove to be too much of a hurdle though – the package is menu-driven and quite intuitive to use.

Amiga Shopper Verdict: A useful program for word puzzle buffs. (GC)

WESTERN MOVIES

From: Diskotech

☎ 05912 242

Price: £15

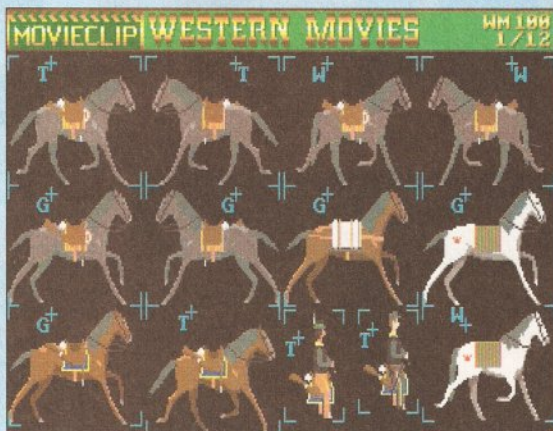
Devotees of the American Wild West will be eager to try out this new collection of clip art from Diskotech. Packed on to this two-disk set are some 2,300 images that recapture the spirit of the Western frontier of the 19th century.

There really are all the images that you'll need to create your own cowboy and Indian epics – anything from the battle of the Little Big Horn, through to your common or garden saloon brawl. However, you've probably already realised from the title "Western Movies" that this is more than just a collection of clip art – it's been cleverly designed to make it easy to produce your own western animations using *Deluxe Paint*. It has to be said that the quality of the different images isn't

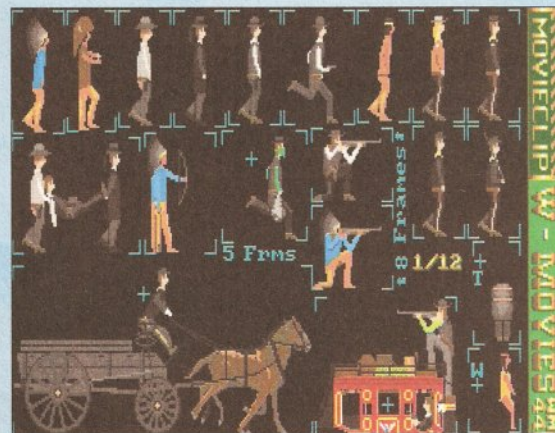
startlingly high, if they are used individually, but that's not really much of a problem once you start to incorporate them in your own animations.

The images are arranged in groups. For example, six different pictures of a horse galloping are supplied, and when these are

combined in an animation sequence you end up with a relatively realistic effect. Cowboys and Indians on saddles are also



Hey, I've got an idea. If you really want to program games (see opposite page), just take these images...



... and get them to scroll across your screen while you try to shoot them down! Who needs spaceships, eh?

in the collection, so you won't end up with a riderless horse – you can even hitch-up a stage coach and ride out with your own wagon train.

A range of

background pictures have also been supplied on the disks to enable you to give your scenes the feel of the big country.

Amiga Shopper Verdict: A value-for-money package that's great fun to use. Budding animators will also find it's an ideal way to hit the animation trail. Thoroughly recommended. (GC)

AMIGA VIDEOS

Global Chaos

By: Hex

From: video shops
(HMV, Our Price, etc.)

Price: £10.99

X-MIX-1

By: Studio K7

From: Alternative Image
☎ 0533 440041

Price: £10.99

A couple of recent music/graphics video releases both feature

computer graphics and animation heavily, much of it produced on Amigas. One is a British production, the other German, and they're both part of a new wave of music videos which have developed out of the Rave scene – abstract images, lots of fast cutting, multi-layered digital video effects and flashing lights. They feature hard-core, ambient, or techno dancebeats cranked up high to get your heart racing and your legs pumping.

Global Chaos is 60 minutes of pulsating sound and vision from multimedia artists Hex, with sound production by those well-established, heavy-duty mixdoctors ColdCut.

Drawing on a range of artistic sources, from computer games to video scratching, *Global Chaos*

claims to be the story of the Alien Sphinx's trip to Earth and the chaos that he finds there. It contains lots of digital video feedback, rotating 3D objects and flashing graphics, and some very nifty Mac-generated 3D dancers and humanoids. There are also good measures of plasma fields, video montages, some old Amiga demos and even a few Real Things animals thrown in, all stirred together with the help of some expensive toys to produce a stream-of-consciousness mix of eclectic graphics and electro-funk.

X-MIX-1 is the German tape, masterminded from Berlin and featuring a variety of European bands

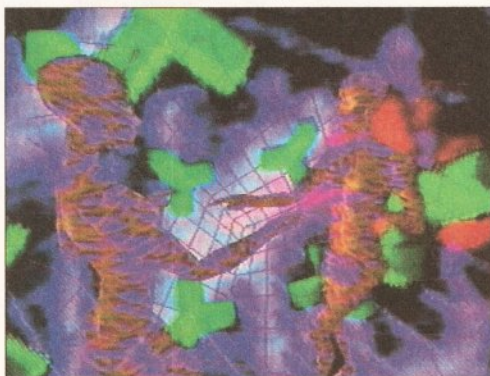


Global Chaos is a videotape that will do your head in! (Our video correspondent writes. In crayon.)

and computer graphics designers, each contributing one or more music and visuals tracks, all seamlessly blended into an hour of great-looking animations and graphics montages.

In contrast to Hex's in-your-face approach, *X-MIX-1* is a much more coherent production which will appeal especially to ambient fans, though it has its moments of hardcore and

house too. Most of the animation work is of very high quality, with contributions from seven graphics teams – including Ume no Kaisha and Britain's Alternative Image –



X-MIX-1: the kind of stuff that your local MP wants banned and your local pirate radio station plays.

married with 15 tracks by 10 bands on the MFS label.

Amiga Shopper Verdict: When it comes right down to it, *Global Chaos* isn't my cup of tea. I quickly got bored with the overbearing digital

feedback and rotating objects approach, and I have to admit that I'm not into this style of electro either. But this is art, so I reckon I have no right to say whether you'd

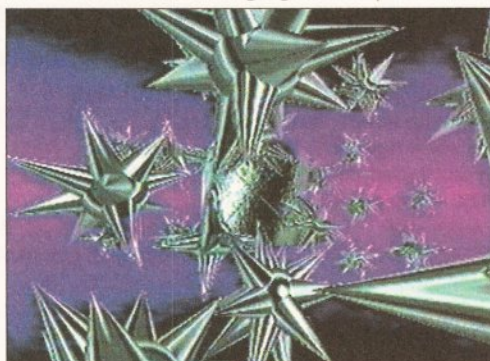
like it or not. So here's what *Global Chaos* is: fast, furious and colourful. Over-indulgent perhaps, and a little hyped, but as an audio-visual experience for a nightclub, rave, party or an hour of personal hyperventilation you won't go far wrong with this one if you love techno sounds and crazy visuals.

As for *X-MIX-1*, some of the animations are particularly stunning, often several minutes long with strong action and execution – a far cry from the hackneyed "spin a blobby 3D shape over a colour-cycled Mandelbrot or Vista landscape fly-through" approach. They're fresh and interesting and arouse your curiosity

as to how some of the graphics were produced.

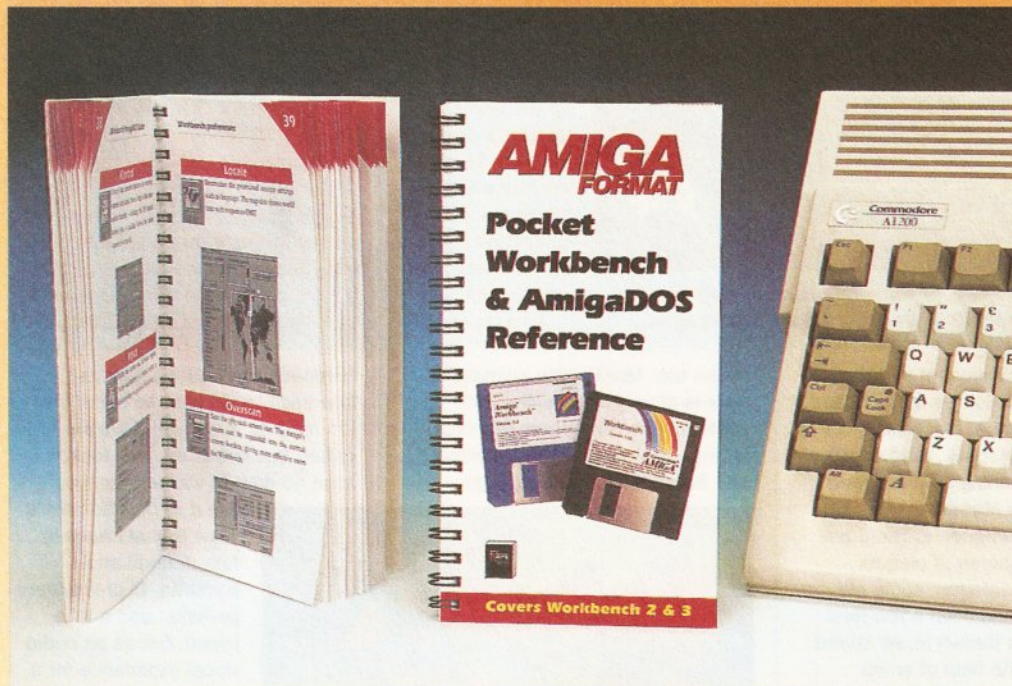
Okay, it's not *Jurassic Park* or *Lawnmower Man*, but as a showcase for Amiga 3D animation this tape is well worth a look, and if you like ambient dance music I think you'll like *X-MIX-1* even more. Euro dance beats meet Euro artists in a single-market Euro spectacular. Well worth a blast.

Gary Whiteley AS



If your telly's feeling black and white, these two tapes'll put the colour back into it again.

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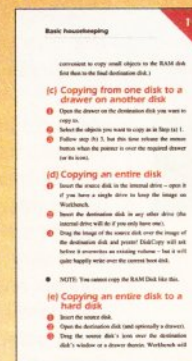
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FORCED TO COURT

In the past you have published a number of letters and articles deploring the inefficiency of the on-site maintenance provided by Wang for Commodore. You may think that these troubles are behind us, but I am sad to report that this is not so. I bought an Amiga 4000/040 in November 1992. In March of this year it developed a fault. This was reported at once to Wang. After numerous telephone calls, the engineer finally arrived on 24 June.

Commodore have refused to pay me compensation for this appalling delay and I have been forced to take the matter to court. Is it not sad that a company that makes such a good machine seems careless of the customers upon whom its very survival depends?

R C Walker
Shropshire

Yes, it is sad – that is a ridiculous delay. Let us know how you get on with your court case.

ENJOY PC AND MAC

Will you be covering the Amiga CD console? If it all, will you be covering the educational side of it? I hope you will not cover the games

companies going to release high-quality software for the Amiga? Why can't we enjoy programs like Quark XPress, WordStar and the many other programs available for the PC and Mac? People like Digita, Gold Disk and the many others now have the A4000/030 and A1200 to work towards, so I think Amiga users should enjoy PC and Mac-like software from now on. *Pro Page 4* is bug-ridden and *Wordworth 2* is nothing compared to PC word processors. Okay, Amiga software is cheap, but can't companies such as Quark make cut-down versions of their software for people on a tight budget, and have a professional version for professional people?

Steven Browne
Camberley

Don't worry, we will only cover the Amiga CD32 so far as it impacts on the serious side of Amiga computing.

As for the Mac and PC software issue, we're planning a feature on this very subject. So, er, stay tuned.

KING OF AMIGA WORLD

I've just read through my first issue of *Amiga Shopper* (no. 28) and I must ask myself one question: where have I been for the past 27

issues?

I bought my A500 Plus around two and a half years ago but, like most new users, was not bothered about the techie side of the system. I began playing games, not knowing, not caring about the difference between RAM and HAM. However, I then began to tinker about with Workbench, and created some

pictures with *Deluxe Paint III*. When I saw *Amiga Shopper* on the newsagent's shelves, a little voice said to me, "Buy it!"

This was the best £1.95 I ever spent! *Amiga Shopper* is packed to

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the brim with helpful advice, comments and ideas on how to make the most out of my Amiga. *Amiga Shopper* is the best thing since, oooohhhh, Demi Moore! In fact, I think the great Cliff Ramshaw should be King of Amiga World...

But, my liege, I would like help. I need to know about BASIC and DTP, since my knowledge in this area is very limited.

Scott Reeves
Leeds

Today is turning out to be okay after all. Thanks for the comments, oh loyal subject.

We cover DTP every month. You'll find a tutorial on fonts in this very issue (page 28), with the concluding part next month. As for BASIC, the variant we support is called AMOS, and a very good variant it is too. Turn to page 68 for this month's column.

THE REAL BENEFITS

Why do so many parents think a computer + educational software = young Einstein? As soon as they find their children playing games the disillusioned parents wail, "Where did we go wrong?" The real benefits of a computer are often overlooked – children get used to manipulating

information on a computer (even if it is cheat codes for infinite lives) and they don't grow up with a fear of technology in a world dominated by computer-based information.

Robert Swann
Leeswood

An excellent point – I couldn't agree with you more.

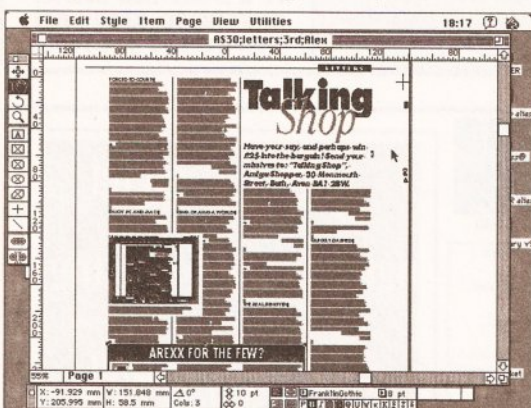
QUICKLY DASHED

I was pleased to see your C programming series. For some time I have toyed with learning C. I already had the DICE compiler and the Commodore Includes, so it was with some confidence of success that I typed in the files listed in issue 28. This confidence was quickly dashed as screen after screen of error messages scrolled up before me. I checked and re-checked my typing. Could it possibly be that the problem was with what was printed? Surely an article aimed at beginners would not be full of mistakes? It is hard enough for a beginner to make a correct listing work, let alone cope with one that is full of bugs.

Stefan Pijanowski
Oundle

There was a printing error in those listings, and indeed other listings within issue 29 and issue 28. My sincere apologies – I can imagine how frustrating it must be. The end of each listing was omitted because of an incompatibility between our fonts and those in our imagesetter. It's sorted now, and you'll find corrections for all the erroneous listings on page 53 of this issue.

The other faults you listed, Stefan, Toby assures me are not problems with his code. He suggests that you must have a very old version of DICE, and that you get hold of a new one via the public domain. **AS**



Here's Quark XPress, running on the Mac. Is there really no software on the Amiga to compare?

side. I read *Amiga Shopper* for serious computing, and I hope I can continue to do so for many years. If you must cover it, please only give updates in the news section.

Finally, when are software

AREXX FOR THE FEW?



£25 WINNER

I have been following the AREXX For All column, and a good read it is too. I notice that Jason is now delving into controlling external programs from AREXX – that is, *Art Department Professional*.

Surely the title of the column means that everyone can join in on the action. Lots of average users cannot afford such amazing

programs. So, with the advent of lots of public domain software containing AREXX ports, wouldn't it be far more sensible to use one of these programs? They could be put on the cover disk with all the other programs. Surely this could get more people involved in his series.

Also, many of the programs reviewed in your Public Domain World section are shareware, with programmers promising upgraded

versions to users if they register. If you reviewed registered versions, you could tell people what advantages they would get by registering, which would in turn encourage more authors to release programs as shareware.

Andrew Smith
Tamworth

Both are well-observed points. Expect to see some changes soon.

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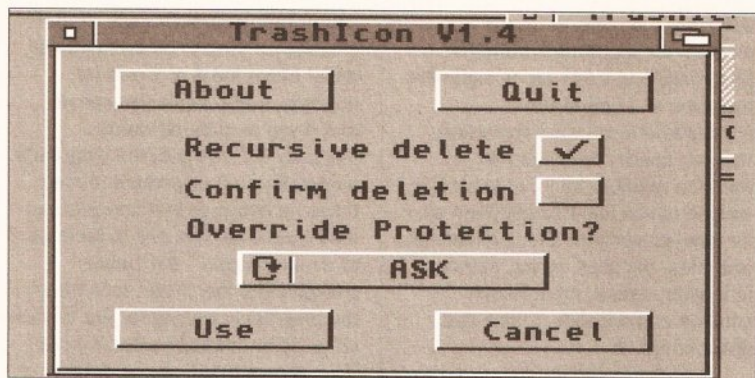
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TrashIcon's options screen: now you can easily delete files just by dragging them on to an icon on the Workbench screen, rather than using the Trashcan.

It's Fish disks 871 to 880 this month (as usual, thanks to Anglia PD for supplying them), plus a look at some of the stuff that's been flooding in over the last month. You know, at this time last year I was full of doom and gloom: the number of new programs seemed to be dropping by the month. Was this the end of Amiga PD and shareware, I asked. Well, fortunately not – now it seems that every month there's more new stuff to look at. Whatever people say, from my perspective it looks like the Amiga is anything but dead – the legions of dedicated programmers and fans of the machine will make sure of that!

Enough philosophising. Before we get on with the disks, I'd just like to make a quick plea to PD houses. Don't send me demos! Well, actually, you can if you want – I enjoy watching them – but don't expect them to be reviewed in this

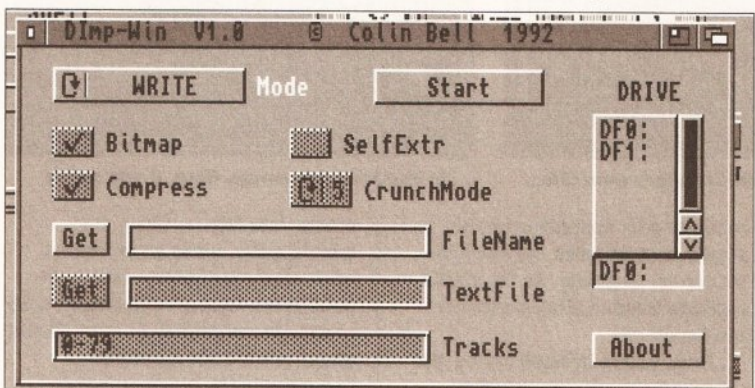
magazine! *Amiga Shopper* reviews no demos and no games – "serious" stuff only, please!

On with the show...

TRASHICON

Fish disk 871

TrashIcon is useful for anyone who's fed up searching around on a crowded disk for the Trashcan icon so that files and drawers can be thrown away. Just double-click on *TrashIcon* and you get a small icon on the Workbench screen, which you can position anywhere you want. Drag a file or drawer on to that icon and it's gone forever – no messing about. There are various options that you can set, such as whether it will ask for confirmation and whether it will recursively delete drawers (that is, remove all their contents as well) or only allow the deletion of empty drawers. If you drag a floppy disk icon on to *TrashIcon*, it will be reformatted – although there is a



DimpWin: a compression utility with a nice Workbench front end, promising much, including self-extracting archives. It would be useful if it worked...

RATING THE PROGRAMS

Just to be awkward, I rate the software that I review in two different ways, depending on what it is. Disk magazines, collections of clip art and the like are given a "value for money" rating, since you're essentially paying for one thing, or group of things, on the disk.

Single programs which appear in a collection of others, or programs which I've downloaded from bulletin boards, are given a "program rating", which reflects how good I think they are, taking into account usability, bug-proofness, my own particular (or should that be peculiar?) tastes and so on. Both ratings are out of a maximum possible 10.

SOFTWARE for free

If you build a better trashcan, Ian Wrigley will beat a path to your door and test it, along with other low-cost and free software.

warning first.

It's small, it's simple, and it's far better than the Trashcan system that the Amiga normally uses.

Recommended.

Program rating 9/10

DIMPWIN

Fish disk 871

Sorry, but I have to bring things crashing down to earth again, with a whinge. I really – really – wish that

programmers would check their bloody programs before they release them on an unsuspecting public! *DimpWin* looks, on the face of it, to be an excellent program. It consists of the *Dimp* program, which is a disk compressor, together with a Workbench front-end (the *Win* bit). *Dimp* can do all sorts of natty things: it compresses cylinders of any floppy disk, and can create a self-extracting file which displays a text file as

BEGINNERS BEGINNERS START HERE BEGINNERS

What is PD?

PD is a general term which many people incorrectly use to refer to all freely-distributable software. In fact, PD (which stands for Public Domain) software or "freeware" is only one branch of this area; the other main one is shareware.

Essentially, freeware may be copied and used by anyone, although some authors place restrictions such as not allowing a PD library to charge more than a certain amount for the disk.

Shareware, on the other hand, should be treated more like commercial software. Although you are allowed to copy and pass around shareware programs, if you like one then you should pay the requested fee to the author – it's normally around £15 or less, and often entitles you to an upgraded version or a printed manual. Paying your shareware fees encourages software authors to write more programs – and if they don't, the Amiga scene will be a poorer place. Don't think that you're paying money for nothing, either – often hundreds or even thousands of hours of work have gone into creating a program, and it's only right that the programmer receives some reward for his or her work.

The third branch of software that we cover here is called

licenseware. This is a form of shareware which is licensed to one (or more) PD libraries. In essence, when you buy a licenseware program you are buying shareware and paying the license fee at the same time. For this reason, you should treat any licenseware that you buy exactly as you would treat a piece of full-price commercial software – don't pass it around to your friends. You've only bought the right to use it yourself.

Can I pass other people copies?

Yes – that's the way that PD reaches a wider audience. Just make sure that you have followed the author's requirements for distribution. These are normally things like not charging more than a certain amount for the disk, not altering the program, or making sure that all the original documentation is included on the disk.

You can also pass on shareware – but not any registered copies of programs. If, when you pay your shareware fee, the author sends you an improved version of the program, then be careful not to give that out. Only pass on unregistered shareware.

You should not, of course, pass on licenseware – it should be treated in the same way as registered shareware.

it's expanding the archive. File size is relatively small, and it's fairly fast. The Workbench front end means that what started out as a very complex Shell-based utility (more options than you can shake a mouse at) becomes perfectly simple to use.

Or so I thought. But it crashed; and it crashed; and it crashed. Even

astronomers. Given a date between 1990 and 1995, it will display the relative positions of all the planets in the Solar System – so you can work out which ones you should be able to see. The display is as though you were looking at everything from high (very high!) above the Earth's North pole, although the planets' actual

as? If so, then *Convert* is the program for you. It runs from the Shell only, and takes as its argument the value and unit of the measurement you want converted. You can specify the units that you want the result to be in, or leave the second option blank to get them all – for time conversions that's millennia, centuries, decades, years, months, fortnights, weeks, days, hours, minutes and seconds. I think that about covers it.

Almost any conceivable conversion is already in here, although surprisingly centigrade to Fahrenheit isn't – perhaps because it's not a straight multiplicative conversion – even though it's mentioned in the documentation. If you want to add your own units, it's easy – they are all stored in a separate ASCII file, so you can add away to your heart's content.

If you find yourself forever checking the back of diaries, looking for conversion charts, look no further – *Convert* does it all.

Program rating 8/10

CROSS

Fish disk 873

Cross is a crossword compiler. Like a few other programs these days, it comes with all its messages in a separate file, so it's easy to translate it into different languages – the program looks in that file when it

enters words automatically. "Real" crosswords tend to be symmetrical about either the X or Y axis (or, normally, both). While you can do that if you're entering words manually into the grid, the program's automatic word placement routine takes no notice of that convention. Also – although this one is far more of a minor niggle – the cursor changes into the "busy" icon when the program is waiting for you to click on a cell to manually place a word. Fine, except that if you've got one of the many available animated pointer routines running on your Amiga, you find that you're trying to work out where the "hot spot" is half the time – it's not easy accurately pointing when your cursor is a rotating egg-timer!

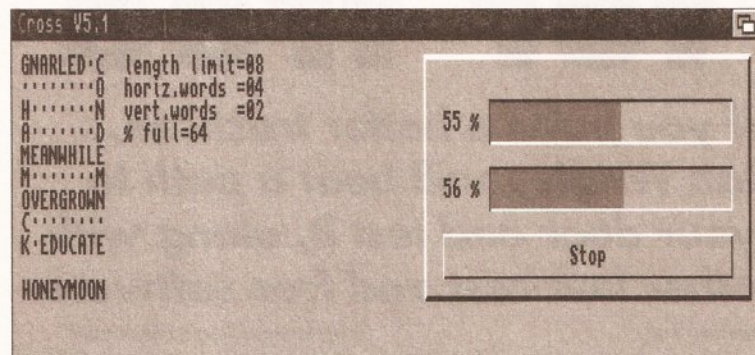
There aren't many crossword creation programs for the Amiga, so if that's the sort of thing you're interested in, you should take a look at *Cross*. It's still a bit primitive, but there's the basis of an excellent program here.

Program rating 7/10

MRICONSORT

Fish disk 873

If you're as scruffy in your Workbench habits as I am, the chances are that your windows are a disaster area to look at – icons everywhere, some obscuring others, some with no icons because you haven't bothered to



Cross at work, trying to place words into the wordsearch grid.

choosing "About" brought the machine to a shuddering halt – so shuddering, in fact, that even clicking the **Resume** button when I was informed that a program error had occurred locked everything and required a [Ctrl]-[Amiga]-[Amiga] to make it all work again. Undeterred, I thought that maybe there was just a problem with the code for the **About** section, so I tried reading and compressing a disk. This seemed to work fine – although in truth the way the front end has been constructed means that things aren't much more obvious than they were from the Shell, and the documentation is virtually non-existent. But just as I was starting to feel vaguely happy again... yep, another crash.

So, sadly, this particular program gets a rating of zero. Which is a shame; a program that can create decent, compact self-extracting archives is something that's desperately needed on the Amiga. This program may work on your set-up, but on my A500 Plus it just won't play. Presumably it just wasn't tested on a 500 Plus – but there are enough willing beta-testers out there in Amigaland for that to be, frankly, unacceptable.

Whinge over.

Program rating 0/10

PLANETARIUM 1.0

Fish disk 871

This is quite a cool program for any

sizes and the distances between them in the diagram aren't to scale.

The program is shareware; \$20 gets you version 1.1, which is functionally identical but can accept dates anywhere between AD1000 and AD3000 (although quite why you'd care what positions the planets will be in a thousand years from now is rather beyond me). Unfortunately, we can't print a screengrab, since *Planetarium* isn't particularly multi-tasking friendly: all input is done with the keyboard, not the mouse, and even when I managed to persuade it to move into the background, none of the screengrabbing programs would work with it running.

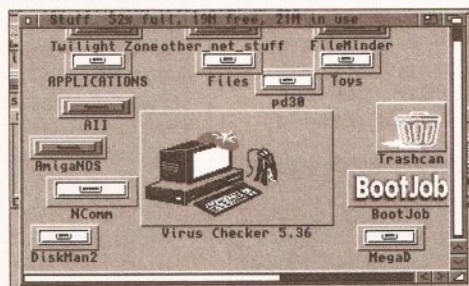
If you think that this sort of information would be useful to you, *Planetarium* does its job well. It's just a shame about that multi-tasking (non)support.

Program rating 7/10

CONVERT

Fish disk 872

Ever wanted to know how many seconds 1.23 millennia was? Or how many Webers per square metre 32 Klines per square inch comes out

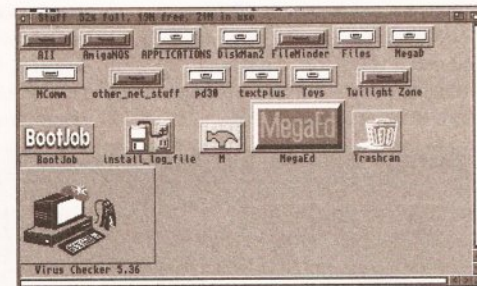


MRIconSort: from this...

needs to print something on the screen, and retrieves the string in the correct language. So far, *Cross* supports German, English, Italian and Esperanto.

Once you've decided on the size of your crossword, you can either enter words manually or have the Amiga do it for you – there's a dictionary file supplied, and it seems to do a fairly good job of filling in as many spaces as it can. When everything's finished, you print your crossword – either in plain ASCII, "pretty", or "pretty with numbers" (the numbers are for the clues, which you must generate using a different program – *Cross* doesn't sport any form of text editor). You can also save the crossword in LaTeX format, if you wish (and if you have a TEX interpreter).

The only real problem with *Cross* is that purists won't like the way it



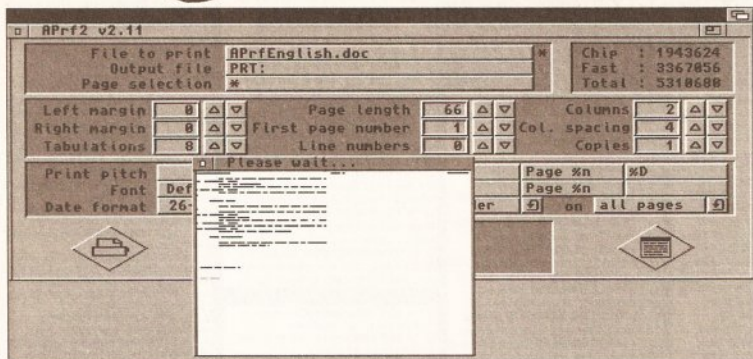
...to this in on fell swoop. Neat, if you're not.

create .info files.... Okay, stop looking guilty, we're all as bad as each other. Fortunately, help is at hand in the form of *MRIconSort*, a \$5 shareware program from Mark Rinfret (those are his initials at the beginning of the program, not an abbreviation for "Mister"). It's simple to use: double-click, select the drawer that you want to tidy and let the program get on with it. If the drawer's window is open while you run the program, you can even watch the tidying process happening.

Everything is controlled by tool types, from the Info window of the program – options such as whether to put files or drawers first, whether to use the window's snapshotted size or the whole Workbench screen width, whether to create icons for files which don't have them and so on. It would have been nice to see all these options available from a menu,

GET IN CONTACT!

If you've written – or discovered – any PD, shareware or licenseware that you think should be reviewed in these pages, or if you've got any comments or suggestions, write to Ian Wrigley c/o *Amiga Shopper*, 30 Monmouth Street, Bath BA1 2BW. Alternatively, you can contact Ian on cix as 'iwrigley', or on the internet as 'ian@vampire.demon.co.uk'.



APrf2: a seriously cool printing tool that promises professional-looking output.

but it's no trouble to edit them from the Info window, I guess.

My Amiga's screen is neat and tidy now, thanks to Mark. So for that alone, this program gets a...

Program rating 9/10

APRF2

Fish disk 875

APrf is by our old friend Denis Gounelle, a prolific writer of Amiga PD and shareware. It's a tool for managing your print output – and it's extremely powerful. If you're using a basic text editor to create your documents, this will ensure that they're printed looking neat and professional – regardless of how primitive your editor's own output handling is.

There are loads of options available. All the obvious ones are there, of course – left and right margins, number of tabs, page length and so on. But then you look at the rest of the buttons on the screen and realise just how much you can do with this package. For example, multiple columns are no problem – and you can specify the spacing between them too. Headers and footers are supported, and there's a wide range of data that they can include, such as the time, page number, filename, filesize, the number of this copy (multiple copies are no problem, and giving each a unique number is useful where security is an issue) and so on. You can specify that headers and footers appear on all pages, all except the first page, or just the even or odd pages. There are plenty of filters available to weed out rogue ANSI or Control characters, and Denis has even implemented a preview window which gives a small view of how your file will look when it's been output – you can't read the characters, but at least you have an idea of the overall appearance.

This is a great little program. For anyone without a high-end word processor that does all this stuff for you, it's a must.

Program rating 9/10

FIND

Fish disk 879

Oh wow. If you're not a techie, jump

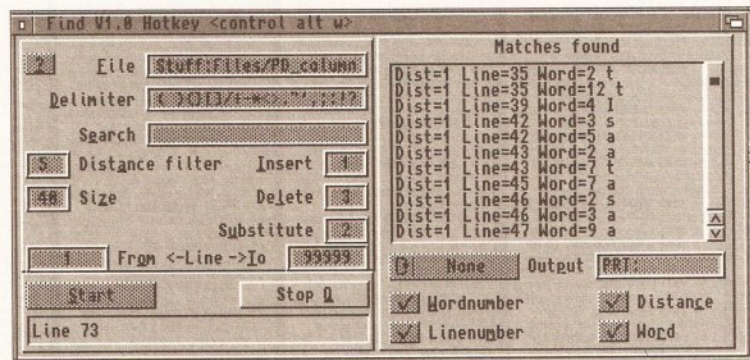
ship now – this one's certainly not for you! It's what is described by the author as a pattern-matching program which uses the weighted Levenshtein Distance algorithm. Quiet at the back, there – pay attention.

Basically, the program searches text files for strings, as will any word processor worth its salt. However, it will also try to match mis-spelled or slightly different words, which can be

and "smule". You control how far off the original the found words can be by setting the "distance", which is done by giving a "weight" to each of the three operations (insert, delete, substitute). So, for example, if you decided that a *substitute* character would have a weight of 3, then "smule" would be three away from "smile" – and therefore would be found if you told the program to look for words three or more distant from the original.

Confused yet? Actually, it's not as bad as it sounds – but you really do have to concentrate on the documentation to get the hang of things.

The only real question I have is whether people will actually use this utility. True, it's sophisticated – but I think that for most people, it's a little like overkill. And – though maybe I just hadn't got the hang of the thing properly – the results seemed a bit suspect to me, on some of the searches.



Find: this is the program you need if you want to do complex text searches.

useful in a variety of situations – say, when you have a person's name in the text and you know that you've spelled it three or four different ways. Find will come up with all instances of the name, as long as they're within a certain "distance" of the spelling you give the program.

It's here that things start to get complex – and of course that means that they get more and more useful. The algorithm tries to match words using three operations: insert a character, delete a character and substitute a character. So, for example, if you search for "smile" you will also find "smiles", "smle"

If you're a fan of Unix utilities like Grep, this will probably warm the cockles of your heart. Me, I'll stick to the Find feature in my word processor.

Program rating 7/10

SNAPWINDOW

Fish disk 880

SnapWindow is a shareware program which enables you to easily activate windows at the press of a key. If you don't think that's useful, wait until you have a couple of applications, a Shell window and the Workbench screen all active at the same time – then say that hitting a key to select

the one of your choice wouldn't be useful!

To use the program, you simply hold down the [left Amiga] key and hit a function key of your choice while a window is open. Now, every time you press the function key, that window pops to the front. All ten function keys can be assigned, so even the most powerful of power users shouldn't be in trouble! SnapWindow also has a few other useful features built in, such as a "SunMouse" option, which automatically activates a window as soon as the mouse passes over the top of it. I tend to think that this is of limited use, myself – clicking on a window to activate it isn't a problem, and I found that this mode caused more problems than it was worth – you can be typing away in one window, only to discover that another has been activated because you nudged the mouse, and you've lost the last three sentences. This only had to happen to me a couple of times before I disabled that particular feature.

The program also includes utilities to double the speed of the mouse and to automatically select a window when the cursor is over it and you start typing (although the same caveats applied for me as with the SunMouse mode). There's also a screen blanker built in, just for good measure.

SnapWindows, according to its documentation, is released as an alpha version – and there are indeed a couple of idiosyncrasies that might get on your nerves after a while, including the fact that occasionally the assignment of a window to a key wasn't recognised by the program. However, even with that problem, this is well worth checking out – assuming, of course, that you don't already have one of the other hundreds of utilities that use the function keys for their own dark purposes....

Program rating 8/10

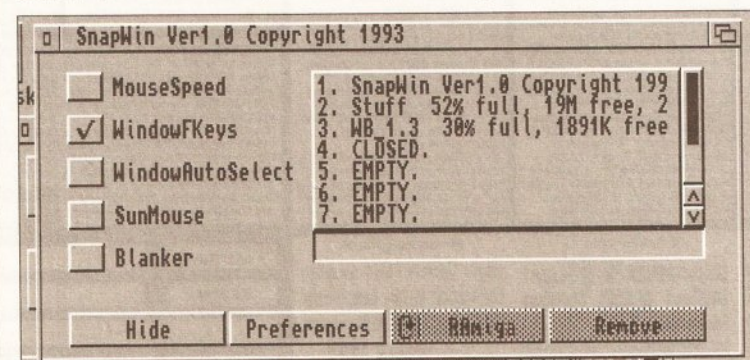
WORKBENCH 2/3 UTILITIES 2

Kew=ll disk U1053

This is a rather nice disk if you have a hankering for WorkBench Commodities. It contains 15 of the little suckers, and – in a welcome contrast to disks from some companies – actually has a decent contents document that lists each one and gives a concise description of what it does.

There's no point in listing all the Commodities on the disk, but some highlights include:

- AppMenu. adds menu items to the Tools menu in the Workbench. A program can be added simply by dropping its icon on to the Preferences tool – the path will be



SnapWindow enables you to select windows simply by hitting Function keys.

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36. Blade Utility (P)
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38. Roadbench V1.4 (Workbench 2+)
39. Easy Spell 2 (P)
40. Kids Education (3) (P)
41. Xi Software Sampler (P)
42. Srupe Sampler (P)
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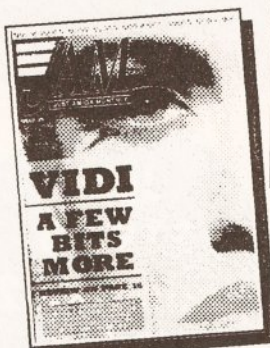
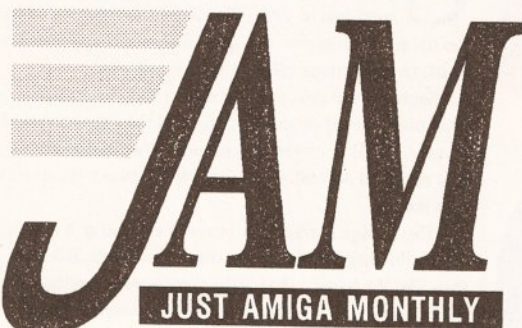
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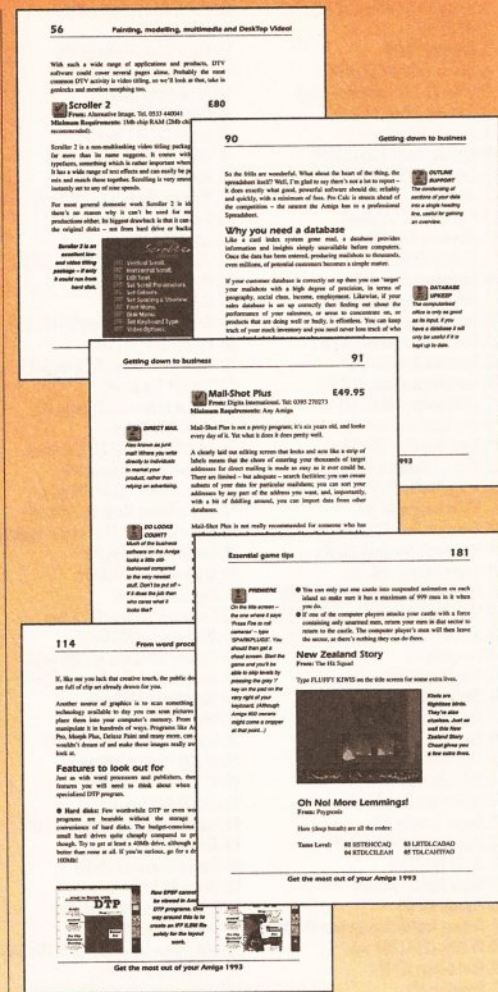
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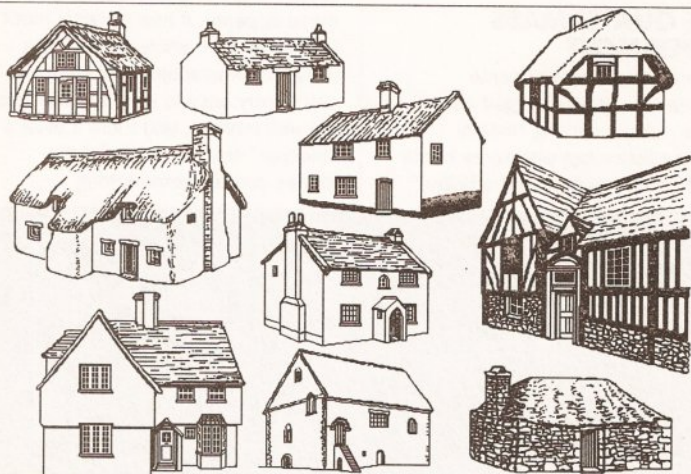
automatically saved, and selecting the menu item will launch the program.

- **Close All Windows.** Does just what it says, with a key command.

- **MouseBlanker.** Turns off the mouse cursor if you haven't moved it within a specified time, or after a certain number of keys have been pressed. This is useful if you're using a word processor or text editor which doesn't hide the pointer itself.

just too much of a trial to get used to – and I suspect that a pre-schooler would get fed up with not being able to understand what was going on.

One of the main problems is that there are two screens – one for choosing colours and modes, the other to do the actual painting. You swap between the two using the right mouse button, and you select options and draw using the left button. So already kids have to



Just one of the 15 images on 3C's Clip Art, from Roberta Smith DTP.

- **QuickGrab.** A screen grabber which works with all graphics modes, and which was specifically written for Workbench 2 and 3 – many of the older grabbers weren't, and therefore have problems with some graphics modes.

- **ToolAlias.** Re-routes requests for one tool to another. The most usual way to use this would be to redirect calls to text displays such as *More* and *PPMore* to your favourite – *MuchMore*, perhaps.

- **PrintManager.** A print spooler, which should work regardless of whether programs use the parallel or serial devices, and whether they use **PRT:** or the printer device directly.

As well as those listed above, there are plenty of Commodities for things like activating windows with double-clicks and all the other standard Commodity functions. All in all, this is a very worthwhile disk if you are a Workbench 2 or 3 user. And it's well presented, too, with all the documentation tidily together in one drawer.

Value for money 10/10

BOREALIS JUNIOR

Central Licenseware CLE040

This program is sold as an art package for pre-school and infant children – it's aimed to give them enough features to experiment with, but not enough to confuse them. I went into it expecting to love it – I was hoping for a great package, fun and easy to use. Well, it's certainly got a fair number of features, but I'm afraid that I found the user interface

remember which of the two buttons does what. Then there's the fact that some of the features act rather strangely – for example, **Rub Out** uses whatever pattern has been selected to partially delete material. Surely, in a package for small kids, **Rub Out** should do exactly what its name says and no more?

If you select a nice thick brush, choose **Rainbow** (which colours pixels in different colours, rather than one solid colour), select the drawing screen and make sure that your child only touches the right mouse button, I'm sure that this could be fun for a short time. But to be honest, I wouldn't like to have to supervise a boisterous infant with this package. If you want to try it out, though, it's available from any companies which are part of the Central Licenseware Registry – it costs £3.50.

Value for money 5/10

3C'S CLIP ART

Roberta Smith DTP disk CU321

Clip art is something that you either find useful or can't see the point in at all. This particular disk has 15 files, each with a number of images of houses, castles and churches. They are all drawn black-on-white, and are very accomplished illustrations. They are certainly of high enough quality to be used in newsletters and the like – just crop the image to leave the drawing that you want, and pop it in your publication.

Value for money 8/10

DISK MAGAZINES

Many of today's top science-fiction authors and comic-book creators got their start in amateur fanzines, and the same is true of many special-interest fields – Amiga computing not least among them.

There's a wide range of disk magazines produced by Amiga enthusiasts, some of them quite long-running and many of them aimed at specific areas of Amiga usage, from AMOS programming to Imagine graphics. Some are professional-standard, some awful, but the common factor is an enthusiasm for their subject and a love of communicating with like-minded Amiga owners – the best have a friendly, club-like tone. Disk magazines are usually available direct from the compilers, or via PD libraries – either way, the Amiga enthusiasts who put them together are not in it for the money, so they fall into the jurisdiction of this column. Here are some of the latest to cross my desk...

N. B. AMOS

This is a brand new disk magazine aimed squarely at AMOS users. It's compiled by Neil Wright and Jonathan Rutherford, and contains news, reviews, articles on programming, and a beginner's section. There are also a few IFF files, and even some music.

It's obvious that Neil and Jonathan are enthusiasts, and they communicate that enthusiasm well. My main criticism comes in the method they've used to display their text files. One of the guys has written a display program – in AMOS, naturally – but it only shows a dozen or so lines on the screen at a time.

That's fine if you're reading one of the text-only articles, but what about the beginner's sections, which take the form of a program listing followed by a description of what each line does. Even worse, there's no scroll bar, and you can't scroll using the keyboard – you have to click on the rather small up and down arrows above the text, which then scrolls at less than bionic speed. This is a shame – the menuing system works well, and looks attractive. It's just that I'd prefer to see the screen furniture sacrificed, or at least reduced radically in size, so that more of the text fits on the screen at a time. Indeed, to be honest a standard text viewer might just as well have been used – something like *MuchMore*, which most people

are familiar with. I know that it's an AMOS diskzine, but there's no point re-inventing the wheel.

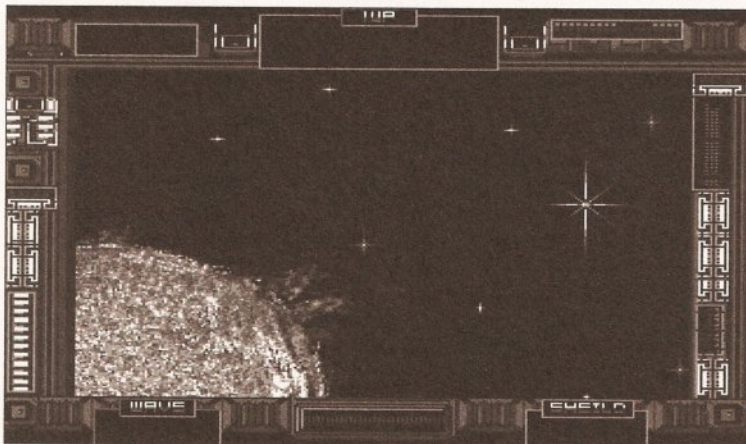
On the other hand, I don't want to sound too critical here – it's a good 'zine overall, and if you're an AMOS programmer it's

probably worth you taking a look.

N. B. AMOS costs £2.50 for a single issue, or £24 for one year's subscription (12 issues). It's available from Neil and Jonathan at 39 Riding Dene, Mickley, Northumberland NE43 7DL.

AMIGAHOLICS ISSUE 12

Amigaholics is one of the longer-running disk magazines, and issue 12 is no disappointment. It has a very "clubby" feel, and a sentence from the editor in the editorial section sums this up nicely, when talking to people who let their subscriptions lapse: "This not a business, and you're not my



One of the IFF files on the N.B. AMOS disk magazine – great for AMOS fans.



Showing you the menu screens of disk magazines is boring, so here's a picture by "Thumper" taken from the Amigaholics 'zine.

customers. If you don't want to be a part of this club, please let me know."

The contents are as good as ever: there's a nice strong editorial comment, which isn't afraid to take Commodore to task over its marketing policy; tutorials on Comms, DPaint and DTP; a Question and Answers section (are you trying to do us out of a job, guys?); a letters section; contacts requests from people who want to meet like-minded Amiga fans; and loads more. There are also some programs and graphics on the disk, although they aren't accessible directly from the menu (I don't know why...) – you have to exit to the Workbench. When

you do so, a rather cute little program called LEMONWB is automatically run. This puts three Lemmings on to your Workbench screen; as you work, they wander around, climbing, walking on the tops of windows, falling off the sides and parachuting down to the bottom of the screen.... This is a new one on me, and although it's totally pointless and trivial, it's still great! The Gallery section contains a couple of decent Garfield pictures by someone who calls him- or herself Thumper, and there's music as well, in case you're a savage beast in need of soothing.

Amigaholics is one of the most consistently good Amiga diskzines

I've seen. The editor, Kevin Bryan, also runs a free shareware library for people who subscribe to the magazine – send him a disk and he'll put software of your choice on it – so that's another incentive to put your hand in your pocket.

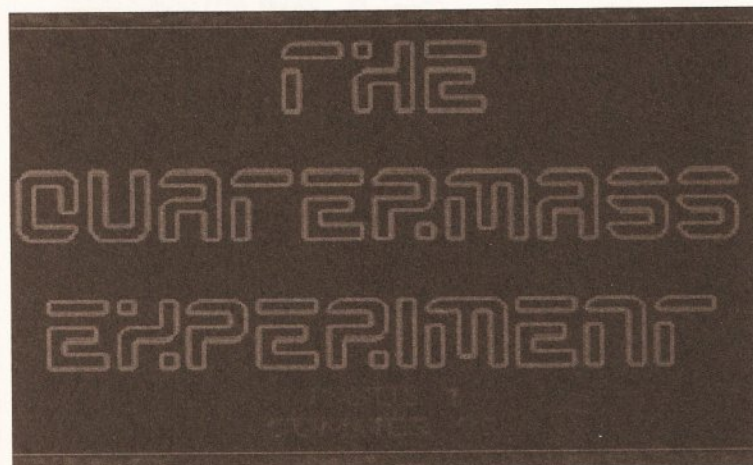
The latest issue of Amigaholics is available for a modest £1.40 from Kevin Bryan at 49 Coutts House, Charlton Church Lane, Charlton, London SE7 7AS.

THE QUATERMASS EXPERIMENT

I approached this with some trepidation – it was flagged as a Fiction 'zine, covering "mainly science fiction but with some horror and fantasy, reviews and articles."

Sci-Fi isn't exactly my favourite genre, but I gave it a go – and whether you like the stories or not, it's well worth taking a look at this two-disk production just to see what a seriously impressive front-end should look like. The graphics are brilliant, the presentation is impressive, it's easy to navigate around the articles – and it's all been written in AMOS!

After a loading screen and a couple of great graphics, the main menu appears. It has a fractal motif (sorry, we can't show it here – the usual screengrabbing problems...), and is very easy to use. The controls are well marked, and there's even a "bleeper" button – some of the stories contain some strong



The Quatermass Experiment: worth looking at even if you're not interested in SF as such, this is one of the best-looking disk magazines yet to appear.

UK PD HOUSES

*An asterisk by a library's name means see its advert in this issue for further details.

A1200 Only PD. Contact B J Cowdall, 27 Pheasant Way, Cirencester, Glos. GL7 1BJ.

AMOS PD, 1 Penmyrnydd Road, Penlan, Swansea, SA5 7EH.

Amiganuts United, 1 Daffern Avenue, New Arley, Coventry CV7 8GR.

Amiga Productivity PD Series, 51 Ennors Road, Newquay, Cornwall TR7 1RB. Contact M J Docking.

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Homesoft PD. Contact Chris Home, 23 Stanwell Close, Wincobank, Sheffield S9 1PZ, ☎ 0742 422000.

ICPUG (Independent Commodore Product Users Group), PO Box 1309, London, N3 2UT, ☎ 081 346 0050.

Immediate Arts, 26 Lyndhurst Gardens, Glasgow G20 6QY. ☎ 041 946 5798.

Judge Dredd's PD, 1 Nottingham Road, South Croydon, Surrey CR2 6LN.

Kew=II Collection, PO Box 672, South Croydon, Surrey CR2 9YS,

language, so if you find yourself offended by such things, click on the button and the words will be replaced by stars. Very considerate.

The actual text contents of the disk are well written, and it's clear that this isn't the first time "Professor Quatermass and Dr Rodney" have put pen to paper (or, indeed, finger to keyboard). There are some short stories and even a novella on the disk, as well as reviews of books and games. I have to confess that I didn't get very far with the stories (as I've said, I tend to steer clear of sci-fi), but what I read looked pretty good. I have to take issue with one of the book reviews – anyone who can say that Steven King's *It* is good has a serious problem (and I'm a King fan) – but apart from disagreeing with the conclusions of that particular piece, I

have to say that the whole thing is extremely professional.

Yes, there are some "rude words". But, let's face it, even the prime minister uses them these days. If you can't deal with that, don't get *The Quatermass Experiment*. But anyone who wants to see an extremely impressive-looking, professionally-produced disk magazine should be writing a cheque right now.

The Quatermass Experiment should be available from various PD houses, or you can get it directly from the authors by sending your cheque for £2 to Immediate Arts, 26 Lyndhurst Gardens, Glasgow G20 6QY.

DIGITAL DISK AMIGA

This is the first issue of what the authors hope will be a multi-format,

fortnightly disk magazine. It's published for the Amiga, PC and ST/Falcon, so if all goes well there should be some interesting debate between the owners of those different machines. Much of the 'zine's content is common to the three different platforms, although there are Amiga-specific sections such as graphics and "The Technical Touch". The "team" say in their introduction that this first issue should only be taken as a sampler, and not too representative of forthcoming issues – and if that's the case, then I must say that it looks like it may become interesting. There are some things that need tightening up, and a couple of features that I could happily have lived without – such as an "interactive adventure", where the readers get to vote on the direction

that an ongoing story takes each month, but which I vote should be trashed immediately. Fans of disk magazines with loads of music, flashy graphics and so on certainly won't be too impressed with *Digital Disk* – it's text only, because of the fact that it's published for three different formats – but, assuming subscriptions take off and the authors manage to get it out fortnightly, this could become an interesting forum for debate between the owners of different machines.

You can get issue 1, the trial issue, directly from Digital Disk Publishing, 70 Donald Drive, Chadwell Heath, Romford, Essex RM6 5DU by sending in a blank disk and a stamped, self-addressed envelope. Subscriptions will be £8 for two months (four issues), or £20 for six months (12 issues). **AS**

WHERE TO GET IT

There are two main ways to get hold of Amiga PD and shareware: from a bulletin board or from a PD library.

The advantage of using a bulletin board (BBS) is that often the latest software is uploaded as soon as it's available. On the downside, you need a modem to connect, and you'll have to pay phone charges (and sometimes a

connection fee to the BBS as well).

There is a growing number of BBSs with a wide range of Amiga software available for download. Check out 01-for Amiga (071 377 1358) and the Cheam Amiga Bulletin Board (081 644 8714). Another good option is joining CIX (the Compulink Information eXchange), which not only has

Amiga software but also contains conference and file areas on a wide range of subjects. Many of the *Amiga Shopper* writers have accounts on CIX, so you can get first-hand advice on your problems, too. For more details, call CIX on 081 390 8446 (voice) or 081 390 1255 (modem).

If you don't want to use a BBS

or haven't got a modem, the other way to get PD software is from a PD house. Many advertise in *Amiga Shopper*, and there's a full directory below. Expect to pay between 99p and about £2.50 per disk – there's often a discount if you buy in bulk, too. As for the difference between companies which charge 99p and those which charge £2.50 – well, try both types. There are brilliant, totally professional PD houses which charge less than a quid, and total incompetents which charge more than twice that.

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Logic PD, 8/5 Glenalmond Court, Sighthill, Edinburgh EH11 4BE.

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Software Expressions, Unit 4, 44

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If a library is named in a review, this means that that library provided us with the disk reviewed. Given that PD can be freely copied, the same program may well be available legitimately from several libraries.

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- 300cps SD (150pi), 240 cps Draft, 80cps LQ
- 8K Printer Buffer - 40K maximum
- 9 LQ Fonts + 2 Scalable Fonts (8-40pi)
- Font Cartridge Slot - for plug-in 'style' fonts
- Parallel Interface
- Graphics Resolution: 360 x 360dpi
- Epson, IBM, NEC P20 & CEL Emulations
- Quarter Printing Facility
- Auto Set Facility - Bi-directional I/F, Auto Emulation Detection
- Ultra Quiet Mode - 43dB(A)
- Colour Printing Standard - Swift 240c, Colour Printing Optional - Swift 240
- FREE Silica Printer Starter Kit

SWIFT 240 MONO

RRP £339
STARTER KIT £49
TOTAL VALUE: £388
SAVING: £149
SILICA PRICE: £239

£239
+VAT=£280.83 - PRI 2560

SWIFT 240C COLOUR

RRP £359
STARTER KIT £49
TOTAL VALUE: £408
SAVING: £149
SILICA PRICE: £259

£259
+VAT=£304.33 - PRI 2571

9 PIN 240 CPS 80 COLUMN



- Citizen Swift 90 - 9 pin - 80 column
- 240cps SD (100pi) 192cps Draft, 48cps NLQ
- 8K Printer Buffer
- 6 Fonts Built-in
- Parallel Interface
- Graphics Resolution: 240 x 216dpi
- Epson and IBM Emulation
- Auto Set Facility
- Ultra Quiet Mode - 45dB(A)
- Advanced Paper Handling
- Colour Printing Standard - Swift 90c, Colour Printing Optional - Swift 90
- FREE Silica Printer Starter Kit

SWIFT 90 MONO

RRP £199
STARTER KIT £49
TOTAL VALUE: £248
SAVING: £99
SILICA PRICE: £149

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SWIFT 90C COLOUR

RRP £219
STARTER KIT £49
TOTAL VALUE: £268
SAVING: £99
SILICA PRICE: £169

£169
+VAT=£198.58 - PRI 2297

INKJET 360 CPS 80 COLUMN

- Citizen Project inkjet - 80 column
- 360cps Draft, 120cps NLQ
- 50 Nozzle Head - Whisper Quiet 47dB(A)
- 8K Printer Buffer
- RAM Card Options
- 3 Fonts Built-in
- Optional HP Compatible Font Cards
- Parallel and Serial Interface
- Graphics Resolution: 300 x 300dpi
- HP Deskjet Plus Emulation
- 2 Year Warranty



RRP £496
TOTAL VALUE: £496
SAVING: £217
SILICA PRICE: £279

£279
+VAT=£327.83 - PRI 2090

- Citizen Swift 24x - 24 pin - 136 col
- 192cps Draft, 64cps NLQ
- 8K Printer Buffer + 4 Fonts
- Parallel Interface
- Graphics Resolution: 360 x 360dpi
- Epson, IBM and NEC P6 Emulation
- Colour Option Available
- FREE Silica Printer Starter Kit

24 PIN 192 CPS 136 COLUMN



RRP £489
SILICA STARTER KIT £49
TOTAL VALUE: £538
SAVING: £229
SILICA PRICE: £309

£309
+VAT=£363.58 - PRI 2574

- Citizen PN48 Notebook Printer
- Non-impact Printing on Plain Paper
- 53cps LQ - 4K Buffer + 2 Fonts
- Rear and Bottom Paper Loading
- Parallel Interface
- Graphics Res: 360 x 360dpi
- Epson, IBM, NEC P6 & Citizen Emulation
- Power: Mains, Battery or Car Adaptor

THERMAL 64 CPS 80 COLUMN



RRP £325
TOTAL VALUE: £325
SAVING: £126
SILICA PRICE: £199

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Amiga Shopper Buyer's Guide tells you what's hot and what's not in the Amiga market place. It's a comprehensive guide to help you make the right buying decisions. We'll be updating it as new products are released.

This month we deal with public domain software. For reasons of space, it may not include each and every PD product ever produced for the Amiga, but rest assured that all the major titles are here.

BUSINESS SOFTWARE

Program	Library	Disk	Type	Issue	Rating
AMaster	Fred Fish	Fish 824	Simple Adress book database	27	**
AZSpell	Digitz	Uti277	Spell checker	13	****
Account Master	Various	-	Home accounts program	19	****
AmiBase Pro 3	AmigaNuts	-	Powerful database	9	****
AmiCash	PS Soft	V630	Home accounts	16	***
AmigaDex	PD Soft	V757	Pop up address book	19	*****
AmigaFox	Office Choice	U173	Combine text with graphics	8	**
Atbl	Fred Fish	Fish 746	Unix-like table formatting utility	22	*****
BBase III	Fred Fish	Fish 860	Powerful database program	28	*****
BuddBase 1	Deja Vu	L/28	Powerful database program	22	*****
Cruiseword	PD Majik	-	Word processor	16	**
DataBench	Fred Fish	820	Very good PD database	26	****
EasyBanker	GTS	Home2	Home finance program	10	*****
Epoch	NBS	U726	Pop up address book and calendar	22	**
Forms Really Unlimited	PD Soft	V782	Create your own business forms	21	*
Home Business Pack	Anglia PD	HB1	Database, spreadsheet, wp	25	*****
Home Manager	PD Soft	V660	Personal organiser	16	*****
HomeHelp	GTS	Home1	Computerised grocery lists	10	****
I-Man	GTS	Home2	Inventory list management	10	***
Inspire Demo	Fred Fish	815	Powerful word processor	26	*****
JCGraph Demo	Fred Fish	Fish 760	Demo of shareware graph program	23	*****
Liner	Fred Fish	285	Ideas processor like Flow	10	*****
MultiPlot	Fred Fish	467	Data graphing program	7	****
NewPRT	Digitz	149	Printer drivers for PageStream	10	****
PageStreamFonts	Digitz	149	Fonts for PageStream	10	*****
PaperBack!	Fred Fish	Fish 749	Create printed booklets with ease	22	*****
Philo	Startronics	N/A	Databases for beginners	21	*
Power Base	Deja Vu	Licenseware	Database	15	*****
Power Planner	Deja Vu	Licenseware	Diary/telephone book	15	***
PowerSnap	Fred Fish	542	Grab screen text as ASCII file	8	*****
PowerText	Deja Vu	Licenseware	Word processor	18	*****
QuickFile	Fred Fish	820	Absolutely awful PD database!	26	None!
Stock Control 1.0	Deja Vu	L/111	Powerful stock control utility	23	****
TextEngine 3.0	Digitz	277	Word processor	13	**
TextPlus 3.0	PDSoft	V261	Word processor	1	****
UEdit	AmigaNuts	1162	Text editor	8	***
WBase	Anglia PD	U4015	Pop up Workbench database	18	**
WFILE	Fred Fish	776	Convert PC and Mac text files	24	****
Will&Testament	PD Soft	V706	Template for wills	19	*****
Word Power	Deja Vu	Licenseware	Spell checker	17	****
WordWright	PDSoft	V28	Word processor	13	***
CDTV Player	Fred Fish	Fish 759	Play Audio CDs from WB on A570	23	*****

MUSIC UTILITIES

CZED	Fred Fish	223	Patch editor for Casio synths	10	*****
Desktop Harp	Various	-	Collection of tunes	18	*****
K1 Editor	Fred Fish	332	Patch editor for Kawaii K1	10	*****
MED 3.11	AmigaNuts	973	Sound Tracker	1	*****
Module Master	TBAG	58	Play modules in various formats	9	***
Module Processor	AmigaNuts	864	Convert modules to executable	1	***
Nutcracker Suite	17-Bit Software	N/A	Tchaikovsky's Nutcracker suite	21	****
Rippers Disk	17Bit	1055	Rip modules from memory	5	*****
Sound Ed	Fred Fish	486	Sample editor	5	****

EMULATORS

A64	AmigaNuts	1030	Commodore 64	3	*****
IBEM	VirusFree	1485	PC compatibles	3	***
QL Emulator	AmigaNuts	1030	Sinclair QL	3	***
ST Emulator	Digitz	Uti149	Atari ST	15	**
ZX Emulator	AmigaNuts	1030	ZX Spectrum	3	****

VARIOUS UTILITIES

A-Gene	AmigaNuts	933	Genealogy program	1	****
ABackUp	Fred Fish	Fish 759	Hard Disk backup utility	23	****
AIBB	PD Soft	V948	Standard benchmark program	25	*****
ARTM	17Bit	1274	System monitor	7	*****
ARestaurer	Fred Fish	Fish 760	Restore deleted files	23	*****
AWP	Fred Fish	554	Animate WB2.0 clock pointer	11	****
AniMan	Fred Fish	722	Voice control your Amiga	20	***
Anti-Virus	Soft Expression	U155	Kill those viruses	19	*****
ApplSizer	Fred Fish	Fish 853	Find out size of drawer easily	28	*****
Arq	CIX Download	-	Improved system requesters	8	*****
Assassins Handy Tools	Aardvark PD	U186-188	Three disks of handy utilities	23	***
Astro 22	PD Soft	V685	Astrology program	17	****
AutoSave	Fred Fish	771	Execute ARexx script at regular intervals	24	*****
Avail Mem	Fred Fish	285	Graphical memory monitor	10	***
BackUp	Fred Fish	724	Hard disk back-up utility	20	*****
Badger	Fred Fish	543	Event scheduler	13	****
Banner	TBAG	52	Print huge banners	10	****
Boot Logo	Fred Fish	Fish 754	Display picture during boot up	23	****
BootJob	Fred Fish	Fish 760	Store game bootblocks on disk	23	**
ButExchange	Fred Fish	494	Reverse mouse buttons	9	****
C Commands	PD Soft	V586	Even more CLI commands	18	***
CFX	Fred Fish	Fish 750	File type identifier	22	*****

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CG Fonts	PD Soft	V713	Lots of Compugraphic fonts	19	****
Cass 1.1	Fred Fish	579	Make your own cassette covers	13	***
ClockTick	TBAG	58	2.0-like clock mouse pointer	9	****
Command.COM	17Bit	866	CLI commands in RAM	2	***
Cook & Stitch	GTS	-	Learn to cook, stitch and brew beer!	25	***
Date2Day	Fred Fish	Fish 826	Tells you day when given date	27	*
DCopy	AmigaNuts	700	Disk copier	10	****
DeafLab	Fred Fish	494	Sign language utility	9	***
DevRen	GTS	Utils1	Rename devices including DFO	10	****
Disk Manager 2	Various	-	Disk cataloging program	20	****
DiskMate	Fred Fish	754	Powerful Workbench disk copier	28	*****
DiskSpeed	GTS	Utils1	Disk drive benchmark program	10	****
Distance	Deja Vu	Licenseware	HAM radio utility	20	****
DragIt	Fred Fish	792	Drag a window without using drag bar	25	*****
Ego Mouse	Fred Fish	778	Make your mouse point where it's going	24	**
Electronic baby book	PD Soft	V658	Record your baby's details	16	****
Elements	Fred Fish	593	Periodic table of elements	13	****
FastDiskII	GTS	Utils1	Disk optimiser	10	***
FastIntroMaker	Fred Fish	814	Create your own scully demos	26	****
File & HD Utilities 6	PD Soft	V978	Selection of file and hard disk utilities	25	**
File & HD Utils 3	PD Soft	V815	Various file and hard disk utilities	21	****
File and HD management	PD Soft	V573	Hard drive utilities	15	*****
File and HD management 2	PD Soft	V575	More hard drive utilities	16	***
FileMaster	GTS	Utils1	Binary file editor	10	*****
FileSearch	Fred Fish	531	Find files on a hard disk	11	***
Filer	Fred Fish	562	SID clone for Workbench 2.0	11	****
FindIt	Fred Fish	Fish 731	Search for named files on any disk	22	****
Flash Disk	GTS	Utils2	Disk optimiser	10	****
Font Manager	Digitz	149	Manage your bitmap fonts	10	****
Fontviewer	Fred Fish	Fish 732	Keep track of all your bitmapped fonts	22	****
Format 1.1	Fred Fish	535	Replacement disk formatter	11	*****
Formatter	GTS	Utils1	Replacement disk formatter	10	***
GeoTime	Fred Fish	Fish 758	World Time Zone Display	23	*
GrabKick	Fred Fish	Fish 831	Grabs Kickstart ROM to disk file	27	****
GraphPaper	Fred Fish	Fish 851	Prints graph paper to printer	28	***
HAM Radio	Aardvark PD	-	HAM radio utilities	18	****
HAMLab 2 Demo	Fred Fish	726	Powerful image processor	20	*****
Hard Drive Special	GTS	-	Collection of hard drive utils	9	*****
Hyper	Fred Fish	Fish 853	View AmigaGuide files	28	*
Icon Mania	PD Soft	V730	Lots of new icons	19	**
Imploder	Fred Fish	422	File compressor	7	***
InputLook	Fred Fish	494	Turn off mouse and keyboard	9	****
Install 1.2	Fred Fish	817	Workbench Install disk utility	26	*****
KeyCall	Fred Fish	Fish 854	Load programs via hotkeys	28	*****
KingFisher	GTS	-	Database of Fred Fish disks	5	*****
LC24-200 Fonts	NBS	L503	Fonts for Star printers	8	****
LS	Fred Fish	772	Very powerful Unix-like 'LS' command	24	*****
Label Print	Fred Fish	227	Disk label printer	10	***
LabelMaker	Fred Fish	548	Create disk labels	11	***
LockDevice	GTS	Utils1	Better AmigaDOS 'Lock' command	10	****
LockIt	Fred Fish	798	Password protect your files	25	****
MKSLens	Fred Fish	574	Magnify area of screen	11	**
Macro 1.0	Fred Fish	786	Record and playback user inputs	24	****
Magnetic Pages	PD Soft	V688	Create your own disk magazine	17	*****
Main Event	Soft Expression	U149	Event scheduler	20	****
Master Virus Killer	AmigaNuts	971	Virus killer	1	****
MegaStation	Five Star PD	U195	More CLI commands	18	**
Megad 2.0	Fred Fish	Fish 736	Brilliant SID-like directory utility	22	*****
Menu Runner	AmigaNuts	1024	Run programs from menu	8	***
MessyDOS	NBS	U619	Read and write PC disks	6	****
MessySID 2	PDSoft	V490	Access PC disks with ease	13	*****
Minix Demo	PD Soft	V711	Demo of Unix-like OS	19	*****
Morse Tutor	Deja Vu	L101	Teach yourself Morse Code	19	****
New Aqua	Fred Fish	Fish 837	Database of Fred Fish library	27	*****
NicePrefs	Fred Fish	780	Extra WB 2.0 Preference programs	24	****
Outline fonts	George Thompson	-	For ProPage and PageStream	16	*****
PWKeys	Fred Fish	494	Manipulate windows with hotkeys	9	***
Pager	Fred Fish	Fish 824	Add page numbers to documents	27	***
Password	Fred Fish	804	Password protect a hard drive	26	****
Pools Tools	NBS	U725	Pools predictor	22	***
PopUpMenu	Fred Fish	Fish 756	Modified Workbench menus	23	****
Post	Fred Fish	Fish 828-830	PostScript interpreter	27	*****
PowerPacker Utils	Fred Fish	542	Utilities for PowerPacker	11	***
Printer Drivers	PD Soft	V724	Star and Canon printer drivers	19	*****
QC	Fred Fish	788	Display information on CLI/Shell	24	***
QDisk	Fred Fish	Fish 853	Get size of AmigaDOS volumes	28	****
QMouse	Fred Fish	789	Mouse accelerator utility	24	*****
RMBSHift	Fred Fish	547	Select multiple icons	11	***
Recover	Digitz	149	Rescue files from corrupt disks	10	***
RunMe	AmigaNuts	1186	Run programs from menu	9	*****
S-Text	Fred Fish	Fish 760	Create stand-alone text files!	23	**
School TimeTable	AmigaNuts	1100	Generate school timetables	5	***
ScreenMOD	TBAG	58	Modify screens and windows	9	***
SetNoClick	GTS	Utils1	Turn off annoying drive click	10	***
Sid 2	17Bit	-	Directory utility	16	*****
SingleFile	Fred Fish	Fish 851	Checks hard disk for duplicate files	28	***
Sksh	Fred Fish	791	Unix 'ksh'-like Shell	25	*****
Smart Icon	Fred Fish	316	Iconifies windows	10	***
Snap 1.4	Fred Fish	326	Grab screen text into clipboard	10	****
StarClock	Fred Fish	814	Display time in StarTrek fashion	26	***
SuperDark	Fred Fish	Fish 835	Modular screen blanker	27	****
Super Format	Fred Fish	Fish 835	Workbench 2.1-like disk formatter	27	*****
SysInfo	Fred Fish	571	System information program	11	*****

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SysInfo 3.11	Fred Fish	-	Latest version of system analyzer	26	****
ToolsDemon	Fred Fish	561	Run programs for 2.0 Tools menu	11	****
Touch typing tutor	NBS	CLU03	Teach yourself touch typing	17	****
Track Display	GTS	Utilis1	Shows position of drive heads	10	***
Twilight Zone	Fred Fish	782	After Dark-like screen blanking utility	24	****
UnixDirs	Fred Fish	Fish 850	Unix-like directory movement	27	****
VCR Tape Filer	Fred Fish	721	Organise your video collection	20	****
VirusZ	Fred Fish	786	Virus Killer	26	****
WordFinder-Plus	Virus Free PD	Licenseware	Crossword puzzle solver	21	****
Words 3	AmigaNuts	-	Solve anagrams	9	***
X-Stitch	Deja Vu	Licenseware	Pics to knitting patterns	19	****
XSearch	Fred Fish	804	File searching utility	26	***

COMMS UTILITIES

All 1.35	fred Fish	825	Intuition-based archiving tool	27	****
BBBS	Fred Fish	729	Bulletin Board System	20	****
LHA 1.11	Fred Fish	593	Archiving utility	13	****
NComm	17Bit	1275	Terminal Program	7	****
Phone Line Watcher	TBAG	58	Keep track of phone bill	9	****
Term 3.1	Fred Fish	Fish 831-833	Best Amiga comms program available	27	****

PROGRAMMING UTILITIES

Acc Assembler	AmigaNuts	-	Fast Assembler	6	****
Amiga E	Fred Fish	-	Programming language compiler	26	****
Amiga Pascal	Fred Fish	Fish 849	Amiga version of Pascal language	27	****
BRef	Fred Fish	494	BASIC cross referencing utility	9	****
Copper Master	AmigaNuts	1083	Generate Copper Lists	5	****
DICE	Fred Fish	443	C Compiler	3	****
DPU	Fred Fish	721	Hex disk and file editor	20	****
Frac	AmigaNuts	1251	Adventure game creator	18	****
GadTool Box	Fred Fish	Fish 731	Create Intuition font ends	22	****
ICalc	Fred Fish	Fish 742	Brilliant Shell-based calculator	22	****
MIDI Library	Fred Fish	227	Program MIDI applications	9	****
Map Editor	AmigaNuts	-	Map editor for AMOS	19	****
MegaEd	Fred Fish	Fish 743	Powerful text editor	22	****
MemSnap	Fred Fish	Fish 826	Trace lost allocated memory pools	27	****
MinTerm	Fred Fish	Fish 560	Calculate blitter minterms	28	****
NorthC	AmigaNuts	1112	C Compiler	6	****
PCQ Pascal	AmigaNuts	1113	Pascal compiler	6	****
Power Logo	EdLib	24	Enhanced Logo Interpreter	9	***
Remm and Rams	Deja Vu	Licenseware	Map editor and scroller utilities	17	****
Stripit	Fred Fish	Fish 750	Strip comments from ascii source code	22	****

GRAPHICS UTILITIES

3D Objects Disk 1	AmigaNuts	-	Collection of Sculpt Objects	8	****
3DFont	17Bit	1007	Text to Sculpt Object	3	***
AMOS Paint	Deja Vu	83	Paint package	3	****
BezSurf 2	Fred Fish	315	Create shaded 3D objects	10	***
CMDemo	Fred Fish	Fish 757	Demo of ASDG's CineMorph	23	****
Converters	17Bit	1221	Image conversion tools	9	***
DPaint Tutorial	Soft Express	U160	Comprehensive DPaint tutorial	22	****
Deluxe Draw	Slipped Disk	18	Paint package	3	***
Desktop video pack 2	Anglia PD	-	Various DTV utilities inc titler	17	****
DrawMap	Fred Fish	315	Generate maps of the world	10	***
FracScape	Various	-	Fractal landscape generator	18	****
HAMLab	AmigaNuts	1149	Image processing	3	***
ImageLab	PDSoft	V518	Image processing program	12	****
LandBuild	AmigaNuts	1190	Fractal landscape generator	9	***
Mandel Mountains	Softville	751	Creates 3D Mandelbrot	5	****
MapTrix	Fred Fish	Fish 853	Fractal texture mapping utility	28	****
PictSaver	Fred Fish	543	Grab screens in IFF Format	28	****
Plasma	Fred Fish	573	Fast fractals program	11	***
SkyPaint	TBAG	37	Text-based graphics	3	****
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Spell4Fun	AmigaNuts	1146	Spelling	9	****
TouchStones	Deja Vu	LPD18	Logic	5	****
Treasure Search	Deja Vu	APD2	Maths/Logic	5	****
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FOR SUPPLIER INFORMATION ON ALL THE PRODUCTS LISTED ABOVE SEE UK PD HOUSES PAGE 102

BUYING ADVICE FOR SHOPPERS

Whether you're buying over the phone or at a local store, here's our advice on getting what you want.

BUYING IN PERSON

- Where possible, always test any software and hardware in the shop before taking it home, to make sure that everything works properly.
- Make sure you have all the necessary leads, manuals or other accessories you should have.
- Don't forget to keep your receipt.

BUYING BY PHONE

- Be as clear as possible when stating what you want to buy. Make sure you confirm all the technical details of what you are buying. Some things to bear in mind are version numbers, memory requirements, other required hardware or software and compatibility with your particular model of Amiga (that is, make sure you know which version of Kickstart you have).
- Check the price you are asked to pay, and make sure that it's the same as the price advertised.

- Check that what you are ordering is actually in stock.
- Check when and how the article will be delivered, and that any extra charges are as stated on the advert.
- Make a note of the date and time when you order the product.

BUYING BY POST

As with buying by phone, you should clearly state exactly what it is you are buying, at what price (refer to the magazine, page and issue number where it's advertised) and give any relevant information about your system set-up where necessary. You should also make sure you keep copies of all correspondence both to and from the company concerned.

MAKING RETURNS

Whichever method you use to buy, you are entitled to return a product if it fails to meet any one of the following three criteria:

- 1 The goods must be of "merchantable quality".
 - 2 They must be "as described".
 - 3 They must be fit for the purpose for which they were sold or for the purpose you specified when ordering. If they fail to satisfy any or all of the criteria, then you are then entitled to:
 - Return them for a refund.
 - Receive compensation for part of the value.
 - Get a replacement or free repair.
- When returning anything, ensure that you have proof of purchase and that you return the item as soon as possible after receiving it. For this reason it is important that you check as soon as it is delivered to make sure everything you ordered is there and works as it is supposed to.

HOW TO PAY

Paying by credit card is the most sensible way, whether buying in person, by post or on the phone, because you may be able to claim your money back from the credit card company even if the firm you ordered from has gone bust or refuses to help sort out your problem.

Otherwise, you should pay by crossed cheque or postal order – never send coins or notes through the mail.

GETTING REPAIRS

Always check the conditions of the guarantee, and servicing and replacement policy, so that you know what level of support to expect. Always fill in and return warranty cards as soon as possible, and make sure that you are aware of all the conditions contained in the guarantee.

BUYING PD

Even though PD software is relatively inexpensive, you should still apply the guidelines set out above, making sure that you confirm all orders as clearly as possible.

Shopping around is still important when buying PD because different sources charge different prices for the same disks. There is no set pricing structure for disks, but bear in mind that PD houses are, in theory, supposed to be non-profit-making operations. **AS**

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BUYING BY MAIL

- Before you send any money, ring the supplier to confirm that the item you want is in stock and when the delivery is likely to be made. Enquire about returning unwanted goods and the supplier's refund policy. Find out about hidden extras like postage and packing charges, and whether the prices quoted include VAT.

- Beware of companies that do not include an address in their adverts.

- If ordering goods of more than £100 in total value, always try to use a credit card – if anything goes wrong, you will be legally entitled to claim against the credit card company, even if the retailer has gone bust. You may also get extra insurance – check with the credit card company.

- Always buy from the most recent issue of *Amiga Shopper*.

- When your order arrives, check everything carefully. If anything is missing, don't use the product at all – contact the supplier immediately. If something doesn't work, make the obvious checks such as the fuse, but don't try to fix the product.

- If a problem does arise, contact the supplier in the first instance and calmly and politely explain your problem. In most cases these things are merely a mix-up or a misunderstanding that the supplier will happily put right. If you think you have a genuine grievance that has not been resolved, you might consider contacting your local Trading Standards Officer (the number will be in the phone directory – check the local council listing).

- Always keep records of correspondence with any mail order company you deal with and also make a note of where and when you saw the product advertised. False or misleading advertising is an offence, and suppliers must stick to what they've said in adverts.

AMIGA SHOPPER

Issue 30 - October 1993

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 This magazine comes from Future Publishing, a company founded just eight years ago but now selling more computer magazines than any other publisher in Britain. We offer:

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IN NEXT MONTH'S ISSUE

So, we've reached the end of another issue (well, okay, there's the competition on the next page, but I digress). You're probably wondering what kind of wonderfulness we're going to be bringing you next month. So, Cliff, what kind of wonderfulness are we going to be etc etc?

Well, Cliff, I'm glad you asked me that, because it's not often I get the opportunity to talk to such a knowledgeable person as yourself. I was thinking we might do an *Amiga Answers* special.

Really? We'd have to answer loads and loads of questions. Have we the room?

Oh yes, Cliff, we'll be having well over 20 pages devoted to solving every conceivable sort of Amiga problem.

Hardware and software?

Naturally.

Sounds good. What exactly are you thinking of covering?

Printers are a must - lots of people have problems with those - as are desktop publishing and word processing. We'll have to do something on video

and graphics, and I think we'll need a section on AmigaDOS. Oh yes, I nearly forgot - memory, too.

Is that all, then, Cliff?

Oh no, Cliff. I haven't mentioned hard drives, accelerators, business software, comms, music or programming yet.

How will we deal with all these?

We'll answer both commonly-asked questions and more specific genuine reader queries.

Is that all for programming?

We'll also have a special feature on debugging.

What about beginners?

Do you really think I'd forget to put a special beginners' section in there?

No, you're brilliant, of course. Is it true we're having a cover disk next month?

Yep; one packed solid with the best public domain and shareware utilities



Next month our expert panel really goes to town on your Amiga problems, while the editor babbles incoherently...

we can find. Believe me, Cliff, it'll be unbeatable.

Oh look, Cliff, the men in white coats are here again. I think they want to take us somewhere.

Just so long as they let us out in time to get *Amiga Shopper* 31 on sale by Tuesday 5 October! **AS**

WIN A YEAR'S FREE SUBSCRIPTION

Okay, first correct answer wins. Which famous science fiction movie, first shot as a students' "short", involved a conversation between a spaceship crew and the bomb they were carrying? Send your answers to "Crew And Bomb Conversation", *Amiga Shopper*, 29 Monmouth Street, Bath BA1 2DL. The closing date is Tuesday 14 September.

ARE YOU ONE OF OUR WINNERS?

In *AS* 28 we had two Canon BJ10sx bubble jet printers up for grabs. Our first prize winner is Darren Sale from Kings Norton in Birmingham, who picks up not only a BJ10sx but a sheet feeder unit to boot. Second prize winner Mr B Hill of Hull should soon be leaping for joy as well - he also gets to collect one of these nifty little printers. Congratulations to the lucky pair.

MAG*SAVE

AMIGA SHOPPER SELLS LIKE SPRING WATER IN THE SAHARA - SO DON'T MISS OUT: RESERVE YOUR COPY AT YOUR LOCAL NEWSAGENT NOW!

DEAR NEWSAGENT, Please reserve/deliver me a copy of *Amiga Shopper* every month, beginning with the November issue, which goes on sale on Tuesday 5 October.

Name _____

Address _____

Phone _____

• NOTE TO NEWSAGENT: *Amiga Shopper* is published by Future Publishing (0225 442244) and is available from your local wholesaler.

• PS Oh, and if you do have any problems getting hold of your favourite Amiga mag, call Kate Elston on 0225 442244 and she'll help you out.

AMIGA SHOPPER

AT A GLANCE GUIDE

To help you find what you want quickly and easily, here is a cross-referenced list of all the products and subjects covered in this month's *Amiga Shopper*. You'll find a detailed index to the many subjects dealt with in the problem-solving *Amiga Answers* section given on page 37. The page numbers given are for the first page of the article in which the subject is mentioned.

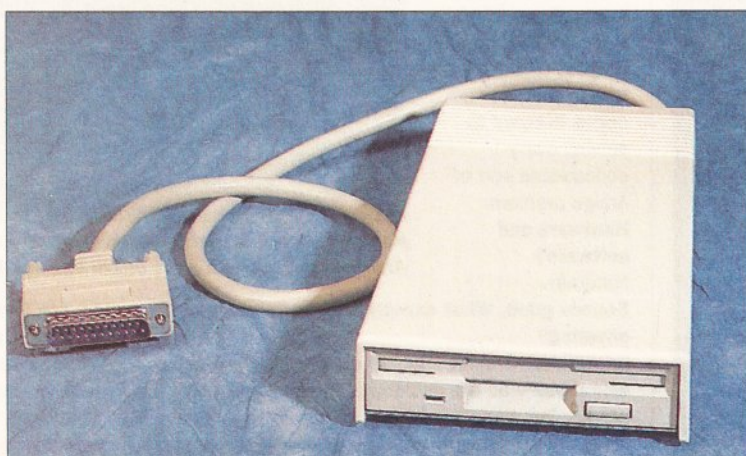
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Are there any products or subjects you'd like us to take a look at? Well, just drop a line to:

Amiga Shopper,
30 Monmouth Street,
Bath, Avon BA1 2BW.

WIN • WIN • WIN • WIN • WIN • WIN

Get the Power!



Double your disk capacity with the Power XL high-density drive, the first for the Amiga – we have five to be won, worth £100 each!

For this month's exciting competition we've teamed up with Power Computing to bring you the chance to get your hands on Power's neat new high-density XL disk drive – for free.

If you saw our review in last month's *Amiga Shopper*, you'll be aware that we were duly impressed, describing Power Computing's high-density XL drive as "an excellent option". (If you missed AS 29 and want the full gen on this top-rated product, you can order a copy on page 108.)

What's so good about it? Well, you probably know that "standard" Amiga disks can hold up to 880K of information, and sometimes that's just not enough – for example, when you're busy pushing the graphics capabilities of the Amiga; those 24-bit images fair gobble up the K. With

the Power XL that sort of problem will be a thing of the past. The Power XL high-density drive can hold double the volume of information – that's an impressive 1.76Mb.

Another valuable feature is the drive's ability to read and write disks in 1.44Mb PC format – handy when you want to swap data with those primitive PC things. Those Amiga

users with Workbench 2.1 or above will be able to do this using the supplied *CrossDos* utility, while 1.3 Workbenchers need to get hold of the shareware *MessyDos* program.

The XL unit, like other Power products, is sturdily built to rigorous quality standards and attractively finished in a solid plastic housing. Fitting it is a doddle as well – simply plug it into the disk drive socket at the rear of the Amiga and you're ready to roll – insert a disk and the drive automatically detects whether it is HD or not. Just run the auto-install program included and you can write as well as read HD disks.

Is your appetite duly whetted? Want to get your paws on one? Then simply answer the three not-too-tricky questions in the box below. Next, send your answers written on the back of a postcard (or a sealed envelope), along of course with your name and address, to:

Get the Power
Amiga Shopper
29 Monmouth Street
Bath BA1 2DL

The closing date for entries is Friday 8 October and the first five correct answers drawn from the editor's cardboard box on that day win. Send only one entry per household and please state if you don't want your name included on a mailing list. **AS**

THE QUESTIONS

1. A high-density Amiga disk can hold how much data?

- (a) 1.44Mb
- (b) 1.76Mb
- (c) 880Mb

2. Power Computing are based in which town?

- (a) Bedford

- (b) Bradford
- (c) Beccles

3. Which of these is the densest?

- (a) The centre of the sun
- (b) A black hole
- (c) The microscopically-small magnetic particles on the surface of a high-density floppy disk.

WIN • WIN • WIN • WIN • WIN • WIN

The Best Selling Word Processor and Database just became even better... **VALUE!**

Since its launch, Pen Pal has become the most popular package of its type

Not surprising when you consider the extensive features at your fingertips, combined with user friendly simplicity, it was bound to be a winner! In a comprehensive Word Processor test, Amiga Format commented "There is little to fault Pen Pal, it deserves to do well" - quite a prediction it seems! Format have since said that it's "Still the best value for money..." If you're not a Pen Pal user yet, we hope you soon will be, because at just £49.95... the best just became better, even better value!

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A superb package, with immense power, to fulfil all your Word Processing needs, and... with an integrated Database too! It's all so easy to use, you'll rarely need to refer to the extensive 250 page lay-flat spiral bound manual. Users frequently tell us that they've never found a program they get on with so well.

THE WORD PROCESSOR: You can... Open multiple documents simultaneously; search and replace; cut, copy and paste; check your spelling with a 110,000+ word dictionary; import your favourite IFF/HAM graphics, from programs such as DPaint, or Clip-Art files in various sizes and colours; automatically flow text around graphics in any Workbench compatible font (there are over 200 available styles) in different sizes and colours to suit your design... Even as you type!

Full Page View with position, edit and creation of graphic objects and extremely useful forms designer. All this from a word processor and... Much, Much, More! As you can see from the documents shown on the left, this is no ordinary program!

THE DATABASE: With 32 fields per record, 32,000 records per database and a fast sort of 1000 records in less than 5 seconds, this is a *real* database. Mail merging into the Word processor couldn't be simpler, with easy creation of templates for letters or reports, into which information can be merged.

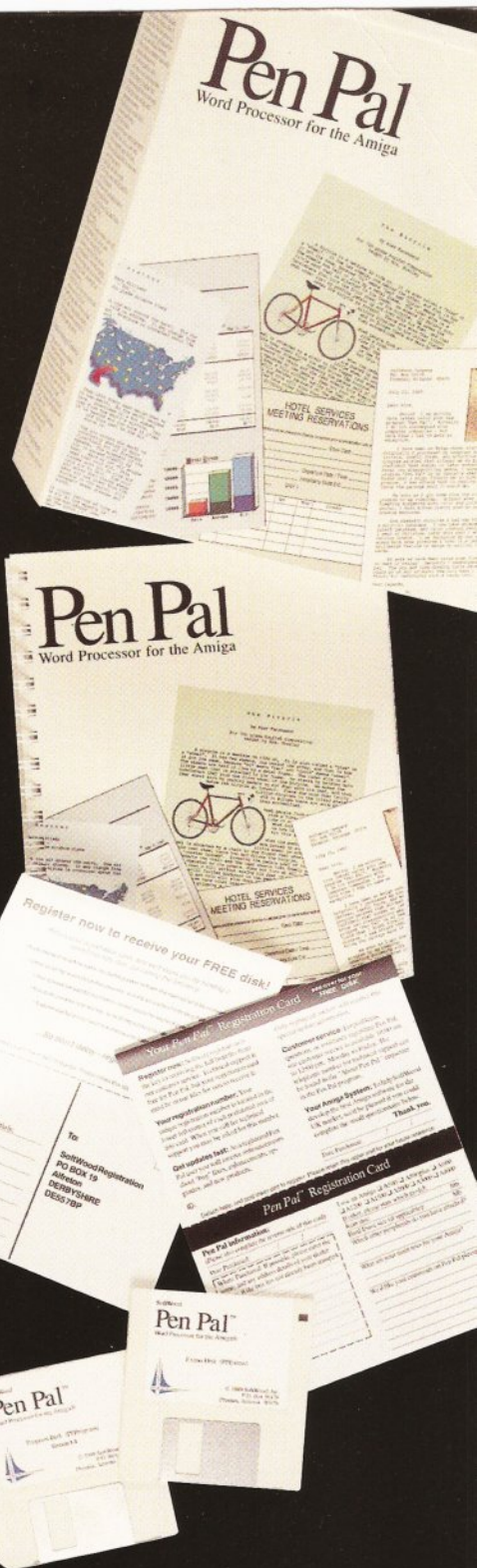
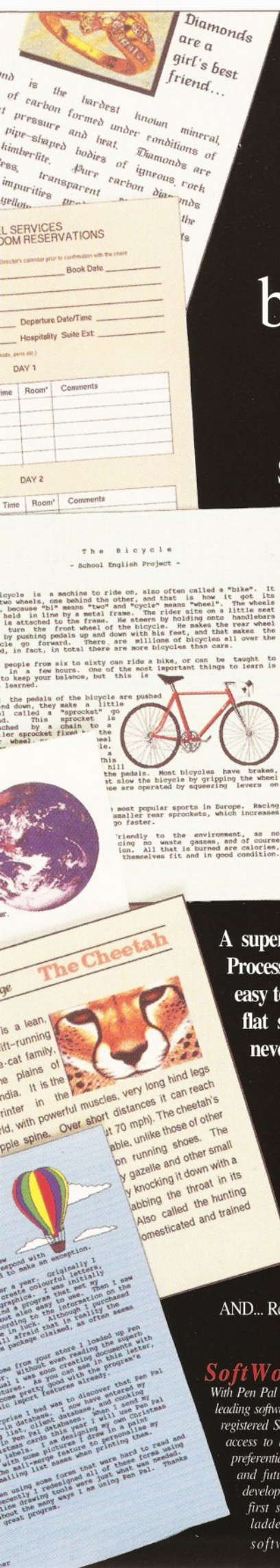
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Pen Pal is available from all good Amiga software Dealers or from SoftWood. Call for your list of stockists.

SoftWood Products Europe
PO Box 19 Alfreton
Derbyshire DE55 7RW England
Tel: 0773 836781 Fax: 0773 831040
Pen Pal is compatible with any Amiga from A500 to the latest A1200/A4000 ranges with a minimum of 1 Mb. available free memory.



Power Computing's innovative 4MB 32-bit memory expansion for the Amiga 1200 is now available. The PC1204 includes these many features:

Zero Wait State - Unlike some other expansions the PC1204 never leaves the processor waiting around for data, which means that your A1200 can run at its maximum speed.

Ultra Fast FPU - An optional maths co-processor speeds up intensive calculations. A 50MHz chip will speed up operations by up to fifty times.

Real-Time Battery Backed Clock - Allows files to be date-stamped with the correct time and date so that you know exactly when they were created.

Low Power - High density RAMs means low power consumption.

Easy To Fit - Fitted in minutes without the need to remove the computer's case.

Optional FPU Disable Switch - Disable the FPU instantly for software that will not run with a maths co-processor installed.

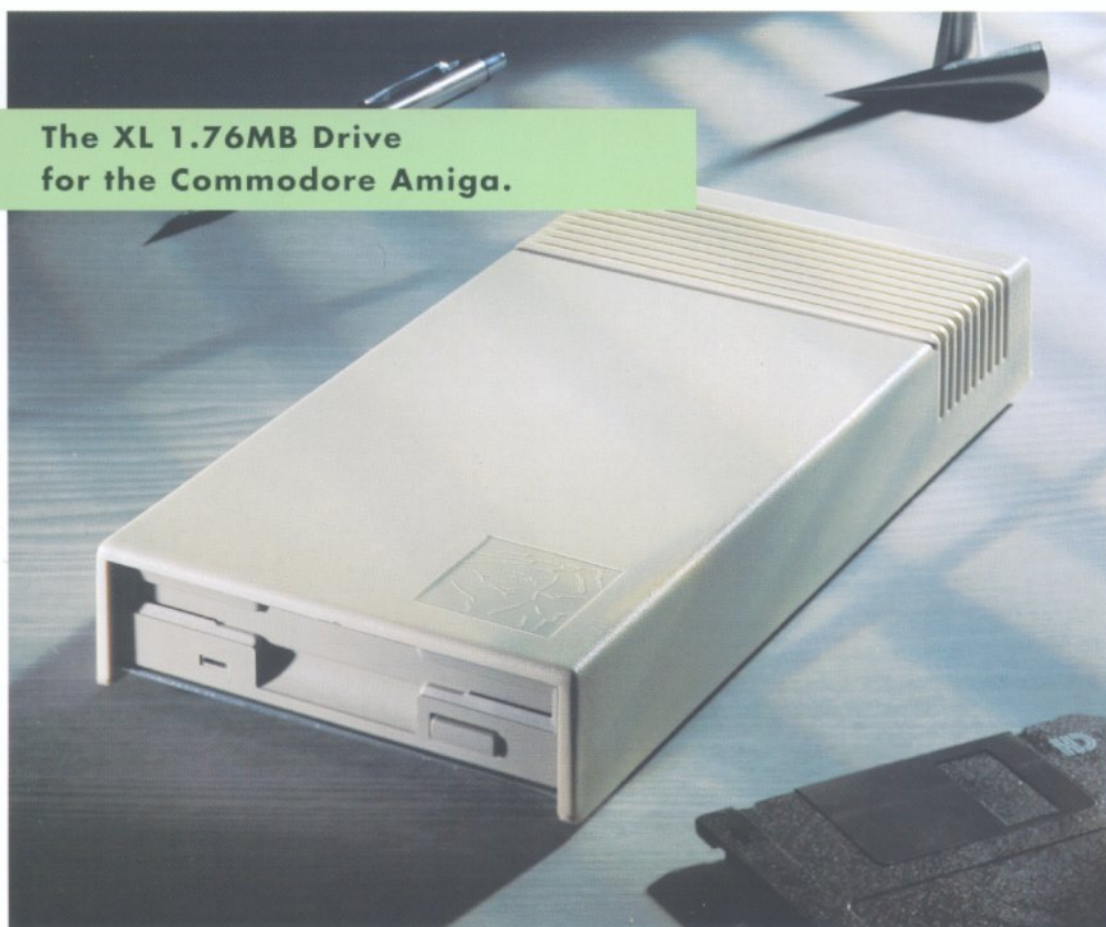
	Power PC1204	A leading competitor
Speed Vs standard A600	4.84 times faster	4.79 times faster
Speed Vs standard A1200	2.19 times faster	2.17 times faster
CPU MIPS	2.96	2.93

PC1204 4MB with clock, no FPU Processor **£185.95**
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 PC1204 4MB with clock, 25MHz 68882 FPU **£279.95**
 PC1204 4MB with clock, 33MHz 68882 FPU **£289.95**
 PC1204 4MB with clock, 40MHz 68882 FPU **£299.95**
 PC1204 4MB with clock, 50MHz 68882 FPU **£339.95**



The PC1204 4MB Memory Expansion for the Commodore Amiga 1200.

The XL 1.76MB Drive for the Commodore Amiga.



Power Computing's XL 1.76MB Drive* for any Commodore Amiga is now available. The XL Drive includes these many features:

Formats to 1.76MB - Using high density disks you can fit a massive 1.76MB on each disk.

Acts as a standard drive - Insert an 880K Amiga disk and the drive behaves like any other Amiga drive.

Fully compatible - Will read and write disks written on an Amiga 4000 internal high density drive.

Compatible with PC disks* - Also read and write high density PC disks using a suitable device driver.

Compact size - No larger than a standard 880K floppy disk drive.

High quality design - Uses a high quality Sony high density mechanism.

Comes complete with disable switch and through port.

XL DRIVE

XL Drive £99.95

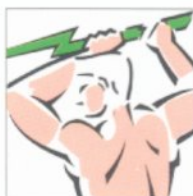
*Requires Kickstart 2 or above. *Requires Workbench 2.1 or above.

48Hr delivery **£2.50**, 24Hr delivery **£4.50**

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Specifications and prices subject to change without notice

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